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DISEASES OF THE RECTUM.

- I. A TREATISE ON THE MALFORMATIONS, INJURIES, AND DISEASES OF THE RECTUM AND ANUS. By *Géorge Bushe*, M.D., Formerly Professor of Anatomy and Physiology, &c. New York, 1837. 8vo., pp. 299.
- II. ON THE DISEASES OF THE RECTUM. By *James Syme*, F.R.S.E., Professor of Clinical Surgery in the University of Edinburgh. 8vo., pp. 138. Edinburgh, 1838.

WE have occupied two copious articles in the two numbers of this Journal, immediately antecedent to the present, with the important subject of Diseases of the Rectum. The majority of those diseases have been amply treated of, and we intend to dispose of the remainder now.

The principal complaints which require notice are abscess near the anus, and its consequence, fistula in ano—stricture of the rectum—polypi of the rectum—and malignant disease of the gut.

A. ABSCESS NEAR THE ANUS, AND FISTULA IN ANO.

1. These affections, which frequently stand in the relation of cause and effect, form the subject of two chapters in the work of Dr. Bushe, and of one in that of Mr. Syme. As the former gentleman dwells very circumstantially on abscess near the rectum, and as this is usually the initiative in the production of fistula, we shall principally draw from his pages what we have to say respecting it.

It is not surprising, that the cellular membrane near the anus should be liable to suppuration. The abscesses to which it is prone are divided by Dr. Bushe into those which are independent of disease of the rectum, and those which are produced by a morbid condition of the bowel.

a. Abscesses independent of Disease of the Rectum.

Dr. Bushe divides these into the idiopathic, traumatic, critical, and symptomatic.

Idiopathic Abscesses are either phlegmonous or gangrenous. The phlegmonous may be either acute or subacute.

The acute are ushered in with fever, pain, throbbing, swelling, and induration of the parts in the neighbourhood of the anus, with frequent and difficult micturition. In a few days matter forms, and is discharged either into the intestine or externally, by one or more openings, after which, the pain and fever subside.

The subacute are attended with irritative fever. Generally, they are large, deep-seated, and accompanied with a sense of weight, occasional throbbing, and spasm of the sphincter. The tumefaction, though not very great externally, is, however, very perceptible to the finger *in ano*. The urinary organs sympathize, but not to the same extent as in the acute form of disease just described. These abscesses are slow to burst, and if artificial means be not used, the patient will become exceedingly low, and the rectum will be stripped of its cellular tissue. Sometimes, they open into the rectum, but more commonly, the superincumbent integuments give way in one or more points, and the matter is thus discharged.

Fatigue, deterioration of health, and insufficient nourishment, dispose to this form of disease, and in some instances, seem sufficient for its production; while contusions, sitting on wet seats, and riding on horseback, excite alike the formation both of this and the acute form of abscess.

The gangrenous, like the phlegmonous abscesses, are sometimes acute and sometimes chronic in their character.

The acute generally occur in bad constitutions, especially in those who have lived luxuriously, and are advanced in life. They are preceded by rigors, and attended with fever. In the commencement this is of a more active, subsequently of a typhoid character.

The patient first complains of deep-seated pain by the side of the anus, where we may easily detect a hard point, which soon spreads; then, the pain assumes a burning character, there is considerable tenesmus; and the dysuria is more severe, than in any of the other forms of abscess. The swelling becomes diffused, the tension increases, though not to a very considerable extent, and the skin turns livid. If the diseased parts be laid open, the cellular tissue will be found extensively gangrenous, and infiltrated with very bad pus. Partial openings arise from the mortification of the integuments, and the pus, with portions of cellular tissue, are discharged very slowly. Sometimes, however, the skin and cellular membrane are much more extensively diseased.

The gangrenous abscesses of more chronic character come on almost imperceptibly, the cellular tissue and skin are less extensively diseased, and they are not attended with much fever, or local suffering. Dr Bushe relates the case of a man, aged 59, who, in October, 1837, began to feel some uneasiness in the anal region near the right ischium, attended with slight swelling, which increased gradually, and assumed a livid aspect. In the following July, when he was seen by Dr. Bushe, the tumefaction was moderate, and without much tension, the integuments were of a dark colour, and there existed two openings, which discharged a small quantity of ill-conditioned pus. His health was, as it had been for years, indifferent. Dr. Bushe laid the diseased parts freely open, and found that the cellular tissue was partly condensed, partly gangrenous, and the seat of two cavities, each

about the size of a filbert, with which the openings above mentioned communicated.

Traumatic Abscesses are necessarily rare. M. Ribes relates the case of a lieutenant, who received a musket-ball in the centre of the right buttock, which fractured the tuber ischii, and passed into the rectum, as proved by the immediate flow of blood from the anus, and the exit of the ball on the 16th day, by the same outlet. The external wound suppurated freely, and in six weeks had healed; but then, the right side of the perineum inflamed, and seemed, from its bluish appearance, about to become gangrenous, so as to lead Ribes to suspect a stercoraceous abscess; however, he punctured it, but could not detect any opening in the rectum, on the contrary, he found that the walls of this bowel were much thickened. In a few days, he extracted a fragment of bone, and some pieces of cloth, after which the abscess healed, and the patient was restored to health. Dr. Bushe once saw a case not unlike this, in a soldier who was wounded in India.

Critical Abscesses occur after fevers and repelled eruptions. Dr. Bushe says little about them. This is hardly the place for their description.

Symptomatic Abscesses are divided by Dr. Bushe into two classes, viz those which form in other organs, and extend downwards by the side of the rectum, and those which arise in connexion with affection of the respiratory organs.

"The first class, includes spinal, urinary, and uterine abscesses. The purulent collections, depending upon disease of the spine, or the soft parts in its neighbourhood, are preceded by symptoms of disease of this column, or these parts; and the matter, after working its way downwards, between the folds of the mesorectum, appears at the verge of the anus, without discolouration, pain, or induration of the surrounding tissues. The urinary abscesses are either gangrenous, arising from the extravasation of urine, or phlegmonous, the urine being prevented from escaping by an organized lymphatic barrier, and are preceded either by disease or injury of the urethra, which easily points out their true character. The abscesses, which arise from disease of the uterus, take place, most commonly, in the advanced stages of cancer of this organ, and discharge a sanious fluid, well marking the malignant character of this fatal disease. The second class occurs in those who labour under chronic laryngeal, tracheal, but more especially pulmonary disease, and may be accounted for; firstly, by the constant impulse communicated to the anal region by coughing; secondly, by the unsupported condition of the veins in this situation, in the latter stages of consumption, in consequence of the absorption of fat; and thirdly, by the retardation of the portal circulation, which depends upon the pulmonary obstruction; for, as explained in pages 17, a free communication exists between the veins of the cellular tissue, without the lower extremity of the rectum, and the hemorrhoidal plexus." 227.

It is rather singular, that the connexion between pulmonary disease and abscess or fistula ani, appears to Mr. Syme to be highly mysterious.

"It is difficult," he says, "to trace the connexion between pulmonary complaints and *fistula in ano*; but no point in pathology is better established than that there is such a connexion; and attention is not unfrequently first drawn to the phthisical condition of a patient by the disposition that he shows to suffer from the disease in question; whence it has sometimes been erroneously supposed that the discharge of the fistula brings on the disease of the lungs. As the great intestine is generally found ulcerated in the bodies of those who have died from consumption, it seems probable that the morbid state of this part, and

not that of the lungs, is the exciting cause of fistula, but the disease certainly does occur in cases of pectoral affection, which exhibit no symptom of intestinal disorder." 10.

We cannot perceive the difficulty which appears so insuperable to Mr. Syme. Tubercular depositions in the lungs must interfere in a greater or a less degree with the return of blood from the veins. The cellular membrane in the vicinity of the anus has many veins—these have little adventitious support—the cellular membrane itself is of great depth—the functions of the rectum expose it to a good deal of mechanical disturbance—and these circumstances, taken in connexion with what we know of the properties of the cellular membrane, and of its proneness to suppuration, explain, we conceive, the frequent concurrence of the latter with pulmonic alterations.

b. Abscesses which arise from a Morbid Condition of the Rectum.

These are arranged by Dr. Bushe under the heads of idiopathic, traumatic, and symptomatic.

The *Idiopathic* abscesses may arise from three causes; first, the accumulation of fæces, by which the circulation is retarded, and the rectum engorged with blood; secondly, the entanglement of small particles of indurated fæces in the lucunæ; and thirdly, from the slow inflammation which takes place, either in the vicinity or substance of tumefied hæmorrhoidal tumors. From any of these causes, ulceration may ensue, fæcal matter extravasate, and an abscess is the consequence.

The *Traumatic Abscesses* proceed from the passage of balls, punctures, badly directed incisions in lithotomy, and foreign bodies which have been entangled by the internal sphincter. Dr. Bushe collects in a note, some remarkable cases which have been at different times put on record.

I have seen but one case, in which a stercoraceous abscess resulted from the presence of a foreign body, and this was in the person of a boy, eleven years old, who swallowed, between three and four months previously, a portion of the thigh-bone of a chicken, about half an inch long. He had suffered severely for some weeks before I was called; but the nature of his complaint was not suspected. I laid the parts freely open, and extracted the bone.

There are several interesting cases of this kind on record, of which the following are the most remarkable: Le Dran relates a case, which occurred to M. Destendau, of a man who for nine months laboured under a fistula caused by the lodgment of a piece of bone. (*Observations de Chirurgie*, tome second. Observation lxxxvi. p. 222. Paris, M, DCC, XXXI.) Petit mentions some cases of this kind. In one, he extracted a needle, which, for six months, had given rise to excruciating pain during defecation. In a second, he removed a small triangular bone, which for four or five months, had created great suffering. In a third there was extensive mortification of the parts surrounding the anus, in consequence of the lodgment of a chicken bone, of ten years duration. Finally, in a fourth he opened an abscess, which contained fecal matter and shot. The disease was of ten years standing, (*Traité des Maladies Chirurgicales*, Ouvrage posthume de J. L. Petit. tome ii. p. 186, 199, 201, 205.) Stalpart Vander-Viel relates a case of a man, who swallowed the jaw of a fish, and, seven months afterwards, had it extracted from an abscess near the anus, (*Cent. ii. Part. i. Obs. 21.*) Sherman mentions a case, in which a fish bone was swallowed, and discharged twelve months afterwards, from an abscess by the side of the anus, (*Philos. Trans. 1723*). Harrison describes a case of abscess, which resulted from the retention of an apple core, eight months after it was

taken into the stomach. (Memoirs of the Medical Society of London, vol. v. p. 151. 1796.) M. de la Peyronie extracted a beef bone, M. Febrier removed a pullet bone, and M. Dubois a piece of an earthen ware pot, from stercoraceous abscesses. (Mémoires de l'Académie Royale de Chirurgie, tome iii. Paris, M,DCC,LXXXI. p. 121, 126, 128, 129.)" 228.

Treatment.—When an acute phlegmonous abscess, with or without disease of the rectum, is about to form near the anus, the patient should be kept in the recumbent posture, and leeches, poultices, &c., applied. As soon as there is any thing like fluctuation, the abscess should be evacuated by an opening.

When the abscess is subacute, the treatment may be of a less antiphlogistic character. Dr. Bushe recommends the early discharge of the matter, but advises this being done by two or three small incisions, rather than by a single free one. We will not pronounce on the superiority of this plan in so confident a tone as Dr. Bushe. The reasons that he gives are not conclusive. In this way, he says, the matter can be freely evacuated, at the same time that the danger arising from the introduction of air, and erysipellatous inflammation, is avoided, as well as, inversion of the lips of the wound, and consequent difficulty in healing it.

The acute gangrenous abscess should *not* be treated by active antiphlogistic measures. Light cathartics, light nourishment, an *early* incision, opium perhaps in the early stage, support by diet and by medicine in the later ones, are the remedies which almost naturally occur to the mind of the practical surgeon.

"Should the skin and cellular tissue be destroyed, as described at page 234¹ the tonic course, which we have now mentioned, ought to be continued, until the health improves, when it will be necessary to perform an operation to remedy this state of disease; for the contraction of the sphincter, by separating the intestine from the walls of the pelvis, will render reparation impossible. The operation, which I have performed in these cases, consists in passing Desault's wooden gorget into the anus, and then carrying the bistoury into the chasm, I divide the sphincter on it, to the verge of the anus.* Should both sides be similarly

* "No matter how far the rectum may be denuded, we are not justified in extending the incision beyond the upper edge of the internal sphincter. Those who think it necessary to divide the rectum, when an abscess forms by its side, take especial care to extend the incision to the bottom of the chasm. The impropriety of touching the rectum, under such circumstances, I have before explained, in note to page 240. Therefore, it now only remains for me to show the absurdity of dividing so much of the gut. My own opinion is, that however ingenious M. Faget may have been in surgical expedients, he was not much of an anatomist, as may be deduced from his statement, that the bowel at the bottom of the abscess is surrounded by bunches of circular fibres, (Op. cit. p. 261.) Now, if this were the case, his practice would be more excusable; but, the fact is that, above the internal sphincter, the circular fibres of the rectum are neither particularly strong nor numerous, (see page 12,) and no anatomist ever entertained the most remote idea, that the pouch of the rectum was in a state of contraction, except during defecation. Even Dr. O'Bierne, who contends so strongly for the contracted state of the rectum, admits, that the pouch does not partake of this condition. To be short, as the object in dividing the rectum is to prevent its contraction, and consequent separation from the walls of the pelvis, it is unnecessary to divide more than the portion, which, under ordinary circum-

affected, I treat them in the same manner. I then pass a ligature through the angle of each flap, and plug the intestine with lint. Finally, I fasten the threads, by means of adhesive plaster, to the buttocks. In this way, the gut is prevented from retracting, while it is well pressed out towards the hips. In a few cases, I have omitted the ligatures, but not without having had to regret it. For some time after this operation, the patient should live upon the most meagre diet, so as to render the feces as scanty as possible, and the bowels ought to be quieted by small doses of laudanum. Every three days, however, we must remove the dressings, and wash out the rectum with an enema of gruel and oil." 244.

If there is a foreign body present, it ought, of course, to be extracted, and in every case, the lower extremity of the rectum should be cautiously examined, in order to ascertain whether there is a foreign body or not.

Mr. Syme's recommendation with regard to the treatment of abscesses in the neighbourhood of the rectum are brief, but to the point.

When the formation of matter, he says, in the vicinity of the anus is threatened by the occurrence of pain, hardness, or swelling of the part, it is usual to abstract blood locally by leeches or cupping. Some relief may thus be generally obtained,—but the improvement, is neither complete nor permanent, and the progress of the complaint, though it perhaps becomes more slow, is not less troublesome,—being rendered sluggish and unmanageable. The application of heat and moisture by means of the hip-bath or fomentations has a very soothing effect on the patient's uneasy feelings, and accelerates the termination of his complaint, either by inducing resolution of the inflammatory action, or promoting suppuration. Evacuation of the bowels should be facilitated by the administration of gentle laxatives, such as castor oil, and injections of warm water into the rectum; and the patient must confine himself to the horizontal posture, as well as the antiphlogistic diet, with strictness in proportion to the acuteness of his symptoms.

So soon as fluctuation can be perceived, it is considered right to evacuate the matter, which otherwise might diffuse itself into the neighbouring loose cellular texture, and lay the foundation of troublesome sinuses. The knife is now almost exclusively employed for this purpose, and a free incision is made by it from the hip towards the anus, through the centre of the undermined integuments. Poultices are then applied for a few days until the inflammatory engorgement subsides after which the cavity gradually contracts, and the case passes into the condition of a sinus or fistula. It might be thought better to divide the septum between the abscess and gut in the first instance, and some practitioners have advised this to be done. But it appears that recovery after the operation is not so speedy or so certain when it is performed thus early as when it is delayed until the textures affected are allowed to subside into their natural state.

Dr. Bushe's observations on some other points contain nothing worthy of notice.

2. *Fistula in Ano.*

The mode in which abscess of the cellular membrane by the side of the anus terminates in fistula is well described by Mr. Syme.

stances, is in a state of contraction; hence, the incision ought not to extend higher than the upper edge of the internal sphincter."

"In the first place," he says, "a collection of matter is formed under the integuments of the hip near the anus, and usually to one side of it. This deposition sometimes occurs quickly, with heat, redness, and pain of the part, at other times slowly and insidiously, without any sign of inflammatory action, so that the first circumstance which attracts attention is a flat and ill-defined swelling that results from the presence of the fluid, together with thickening of the adjacent cellular substance. In whichever of these ways the abscess is formed,—and every variety is met with, from the rapidity of a few hours to the slowness of as many months,—the matter, if left to itself, sooner or later, by inducing absorption of the neighbouring textures, makes a way for itself to the surface. But as it is situated between the skin of the hip and the mucous coat of the rectum, it may effect evacuation through either the one or the other of these coverings. In conformity, however, with the general law as to progressive absorption occasioned by the pressure of matters foreign to the healthy constitution of the body, it most frequently escapes by an aperture through the external integument. This opening is usually very small, often hardly perceptible, and if the cavity be examined after its contents have been discharged, the mucous membrane will be found almost completely denuded, to a small part of its extent, at the distance of an inch or a little more from the anus. As the matter to get into this situation would, if originally deposited externally to the sphincter, have to penetrate between the muscular fibres, its formation probably takes place in the vicinity of the inner coat of the bowel, whence it proceeds outwards, overcoming the obstacles opposed to its progress in this direction, instead of pursuing an inward course, in opposition to the general tendency which leads to the external surface of the body.

If the patient has been previously in pain he feels comparatively well after the matter is evacuated, and may suppose that he is to recover without any farther trouble. But the cavity of the abscess, though it contracts, does not become obliterated; the discharge continues of a thin and watery consistence; and the orifice acquires a still greater degree of straitness, at the same time generally projecting from the surface of the skin in the form of a small pimple-like protuberance, at the summit of which it is situated. This appearance is owing to an effusion of organizable matter round the opening, in consequence of the continued irritation which is caused by the discharge passing through it. From the same cause the sides of the sinus acquire an increase of thickness and density so as to assume the condition which in surgical language is designated fistulous. If the disease be still permitted to pursue its course unchecked, a small aperture is sooner or later generally formed also through the thin denuded part of the mucous membrane of the rectum. It may seem surprising that this second opening should be formed after the matter has procured vent elsewhere; but there can be no doubt as to the fact, and it agrees completely with what is observed to happen in the case of abscesses situated in the neighbourhood of the urethra, which, after their evacuation, whether spontaneous or artificial, often discharge purulent matter alone for a time, and then urine also." 8.

This is an account of the ordinary manner in which an ordinary fistula is formed. There are several forms of it, and they deserve attention, Mr. Syme observes with truth, that the apprehensions of the public on the subject of fistula in ano, or, at all events, on that of the operation required for it, are preposterously exaggerated. They are derived, in fact, from what the operation was, rather than from what it actually is. Mr. Syme quotes from Dionis, some circumstances which may interest our readers.

"Louis XIV. suffered from *fistula in ano*, and being naturally unwilling to undergo the operation which his medical attendants assured him was necessary,

listened to various proposals for curing the disease without having recourse to the knife. Instead of trying these methods on his own person, however, he collected a great number of his subjects who laboured under the same infirmity, and caused the proposed experiments to be tried on them. Some of them he dispatched to the waters of Baresges, others to those of Bourbon, and many more he shut up in rooms provided with everything that could be suggested for the purpose in view. At the end of a year, finding that not a single patient had been cured, his Majesty yielded to necessity, and permitted his surgeon, M. Felix, to perform all the incisions which he judged proper.

We have here a striking illustration of the necessity of the operation; and the importance attributed to its performance as formerly practised, may be estimated from the number of medical men who were present on this occasion, together with the amount of their remuneration. Besides the surgeon and assistant-surgeon, there were two physicians, four apothecaries, and an apprentice, and the sum total of their fees was L. 14,700." 3.

Those were royal days for surgeons. Had M. Roux the honour of cutting the present King of the French, we question whether Louis Philippe's bounty would swell to the sum of L.6000.—the fee which the operator on the Grand Monarque. M. Felix, pocketed. The name of this gentleman is emblematic of the palmy days of surgery in which he had the luck of flourishing. If an operator now receives a thousand pounds for giving sight to one of our millionaires, he is thought a marvellously fortunate fellow.

But we were speaking of the varieties of fistula. As Dr. Bushe observes, they have been divided into three classes, *viz.* those which communicate with the gut, and open on the cutaneous surface; those which, though they communicate with the gut, do not open externally; and those which do not communicate with the gut, but open externally. The number of external openings vary; generally, there is but one; but sometimes, two three, or even more.

"There is seldom more than one internal opening; in some, particularly in phthisical subjects, there are two; and M. Ribes, who investigated this subject with the greatest care, says that he once observed three. Until the researches of this accurate investigator were published, surgeons were of opinion that the fistula frequently opened into the intestine, at a great height, a mistake which led to a severe and hazardous operation. He, however, demonstrated that the internal orifice was generally situated immediately above the spot where the internal membrane of the rectum unites with the skin, sometimes a little higher up, but never more than five or six lines. In eighty subjects, the internal orifice did not exceed this height, and in a certain number, its elevation was not more than three or four lines. I can bear testimony to the truth of M. Ribes' conclusions, for in none of nineteen subjects, was the internal orifice of the fistula situated higher than in those examined by this surgeon, and in the many cases I have operated on, I never found the internal orifice higher up, than the region of the internal sphincter, and hemorrhoidal plexus." 248.

The internal orifice, continues Dr. Bushe is sometimes round and callous, especially in phthisical patients. In other cases, and these by far the most numerous, it is irregular and soft. The external orifice in like manner may be round, and studded with exuberant granulations which readily bleed, particularly when old; or it may be irregular and without granulations, especially when recent, and the result of gangrenous inflammation; for the skin, in such cases, is generally undermined, partially livid, and deprived of its vessels by the sloughing of the subjacent cellular tissue, so that it does

not really possess the power of creating granulations. The parts surrounding these fistulæ are generally very hard, and sometimes they are so disorganized, that we trace with difficulty the course of the sinuses. If we examine a recent fistula, we shall find that there is a considerable cavity between its orifices, because the sac of the abscess, which gave rise to it, has not yet contracted. This cavity, however, gradually diminishes in size, until it becomes a simple tube, lined by a fine smooth tissue, resembling a mucous membrane, save that it is destitute of villousities.

The situation of the internal orifice of the fistula is a point of such importance that Mr. Syme, as well as Dr. Bushe, dwells very strongly upon it. The former gentleman adds something to the observations of M. Ribes and of Dr. Bushe, and we quote his remarks upon the subject.

“The importance of this observation” (that of M. Ribes) “will appear when it is recollected that the operation requires division of the parts intervening between the two openings of the fistula; since, unless the internal one be sought for in the proper place, it may escape detection, and thus not only occasion an unnecessarily high section of the septum, but, from not being included in the incision, lead to a continuance of the disease. When the internal opening is sought for at the summit of the sinus it cannot be found, so that the fistula is apt to be supposed incomplete or blind external; and M. Ribes, avoiding this error, ascertained that an internal aperture existed much more frequently than had formerly been supposed. He went indeed into the opposite extreme, contending that it was present in every case requiring the operation, and accounting for its constancy by attributing the origin of the disease to ulceration of the mucous coat of the gut. But I have already stated that the abscess which gives rise to fistula is very generally discharged outwards in the first instance; and every attentive practitioner must have remarked that an internal orifice is very seldom met with in recently formed fistulas; which facts are quite inconsistent with this theory of M. Ribes.

I have ascertained farther, that in those cases where an internal aperture does not exist, the mucous membrane at the part in which it would be situated if present is not only denuded, but rendered so thin that the perception of a probe through it is hardly less distinct than if it had entered the rectum; and that, if the incision extends to this point, the cure will be no less certain than if an opening into the gut had existed.” 24.

We now return to Dr. Bushe. The direction and situation of fistulæ, he continues, vary. Both hæmorrhoidal tumors and the stercoraceous abscess which result from the lodgment of fecal matter in the lacunæ, generate small fistulæ, situated entirely within the sphincter, or in its substance. The other fistulæ open at a greater distance from the verge of the anus, and extend obliquely upwards and inwards, through the external sphincter, and cellular and adipose tissue, until they open into the gut. In this course they sometimes, run between the sphincters, and then ascend a little, before perforating the mucous membrane; while at other times they pass through the fibres of the internal sphincter.

The symptoms of fistula are not undeserving of attention, for they are not unfrequently mistaken. There are few surgeons who have not seen instances of fistula overlooked by medical men, sometimes undiscovered even by a direct examination. Mr. Syme mentions a case of this description.

“As has been already observed, the orifice of the sinus is usually very small; and, though generally rendered more manifest by being elevated above the surrounding surface, it still not unfrequently escapes the notice of the patient, who

supposes that the discharge issues from the anus. Even the surgeon sometimes experiences difficulty in detecting the disease from this source of obscurity; and I once operated upon a gentleman for a complete fistula, after he had been assured by an eminent physician, who carefully examined him, that there was no morbid affection whatever in the neighbourhood of the rectum." 13.

The symptoms enumerated by Mr. Syme as the most constant, are, uneasiness about the anus, with a more or less copious discharge of thin purulent matter, staining the linen, and otherwise annoying the patient. The occasional escape of flatus and mucous fluid, he continues, from the rectum, are generally superadded in the case of a complete fistula. But the passage of feculent matters through the preternatural channel, though often mentioned as a part of the inconvenience experienced, does not usually take place, and indeed is never met with, except when the disposition to the disease is very strong, as in confirmed phthisis, in which case the aperture of the fistula, external as well as internal, instead of being small and circumscribed by effusion of organizable lymph, is large and flabby. Besides the exudation from the fistula, and more or less uneasiness about the part, especially in going to stool, people of much sensibility are farther distressed by a feeling of weakness and imperfection, which renders their existence almost intolerable. There are other persons of a less sensitive constitution, who, giving themselves no concern about the disease beyond its obvious effects, are able for a long while to endure the discomfort which it occasions. Mr. Syme mentions as an instance of this, the case of a gentleman between fifty and sixty, on whom he operated for a complete fistula with two external openings, which had existed for thirty-five years.

The fluid which is discharged varies both in quantity and quality. It often seems on the point of ceasing, when perhaps another abscess forms, or, at all events, no actual cessation takes place.

"When the fistula opens into the gut, more or less flatus and mucous must pass through it, owing to the resistance which the sphincter muscle opposes to their exit by the anus, and thus adhesion or contraction in the surface of the sinus will be effectually prevented. But when the fistula is not complete, the reason why it should not heal like a sinus in any other part of the body is less apparent. The mere laxity of the texture, or any other peculiarity in the nature of the part concerned, is not sufficient to account for this, since suppurating cavities in the neighbourhood of the rectum are known to heal very kindly and readily, as for instance that which results from the operation of lithotomy. When the sinus, as it almost always does, penetrates between the fibres of the sphincter, the obstinacy in question may be ascribed to the frequent motion and separation of the sides of the cavity, which must result from the action of the muscle. But even this obstacle to recovery is not always present since the fistula sometimes lies quite superficially under the skin and mucous membrane, without passing through the muscular fibres at all. In such cases it seems most probable that the detached and denuded state of the mucous coat of the gut impedes the healing action." 15.

Exploration of the Fistula. This is of some consequence, we mean that the mode of performing it is of consequence. *Fistulæ* are frequently overlooked, not merely on account of the smallness of the external orifice, but from the imperfect examination and inconvenient position of the patient. Dr. Bushe's directions are sufficiently explicit.

To examine a patient, he says, he should be placed leaning over the back of a chair, or in the position for lithotomy; the buttocks being separated by an assistant, the surgeon ought to search for the external opening. If the fistula be large, and complete, he will find it at some distance from the anus; but, when small, it may be concealed in the folds of the fine skin close to, or at this orifice. Then, having oiled, and gently introduced his forefinger, he should take a probe of large size, if the external orifice be far from the anus, and small, if in the folds of the fine skin, and introduce it gently, rather in a transverse direction, varying its point according to the resistance it receives. In this way, if there be an internal orifice, he will soon discover it. Should the surgeon direct the probe more upwards, he will elevate it above the internal orifice of the fistula, and as the least force will be sufficient, especially in recent cases, to carry the probe onwards, through the walls of the sinus into the cellular tissue, by the side of the gut, he will be impressed with the idea, that he is only pursuing the trajet of the fistula; and when he cannot find the internal orifice, he attributes his failure to the great height of the opening. Dr. Bushe confesses that he has himself committed this mistake, and, probably, there are few who have not committed it too.

"Should we be unable," he continues, "to discover an external opening, we may suspect that there is an internal fistula, if there be difficult defecation, and the feces are streaked with matter. The symptoms, however, may depend upon other diseases of the rectum and anus; but they are sufficient to warrant a very careful investigation. The parts adjacent to the anus ought to be cautiously examined, and should this disease exist, we will generally be able to discover some induration, perhaps fullness, and, by pressure, matter will issue from the anus. When the finger is introduced, a depression marking the site of the orifice, can in most cases be discovered. If the fistula be small, concealed between the folds of the mucous membrane, and communicates with a small purulent sack, situated within the sphincter, it may escape observation, and the patient be tormented with the most agonizing suffering. I once saw a case of this kind in a man, who had consulted various surgeons, and whose sufferings were as great, as those of any patient I have seen tormented with fissure. When he strained forcibly, and I made pressure on the verge of the anus, I perceived that matter issued from a point a little above; therefore, I passed a curved lachrymal probe into the sinus, which I laid open, and thus afforded him relief. I have seen some cases, in which there were several of these small fistulæ." 252.

The disease being detected, the next consideration is—how to cure it.

Treatment. A variety of methods have been at different times resorted to for the cure of this disease. Injections, setons, extirpation of the sinus, division of it, nay, in the hands of the renowned Mr. Van Butchell, stitching it up with a needle and thread, are some of the numerous modes of procedure. We have no intention of examining these in detail, or of resuscitating buried operations. It is sufficient to point out the plans which are found to answer the best.

1. When the sinus does not open into the gut, an operation may be frequently dispensed with. M. Ribes, indeed, says that, under such circumstances, it is never necessary. As Dr. Bushe remarks, this opinion is decidedly incorrect.

Compression made with a piece of cork supported by an elastic T bandage,

—the injection of a solution of the sulphate of zinc or copper, or nitrate of silver, of yellow wash, or port wine,—the horizontal position,—and, an easy state of the bowels, are generally sufficient for the cure. We have cured two cases by the introduction, twice a week, of a probe, the end of which has been immersed in melted nitrate of silver. A small film of the caustic adheres to the end of the probe, and, by means of the latter, can be carried to the bottom of the sinus.

When however, says Dr. Bushe, the cellular tissue has been extensively destroyed, we will sometimes be compelled, after the failure of the means mentioned, to divide the external, and, perhaps, a portion of the internal sphincter. This may be accomplished with a sharp-pointed straight bistoury, armed with a small ball of wax, on Desault's gorget, or we may introduce the finger into the gut, and a probe-pointed bistoury with a projecting cutting edge, into the purulent chasm, and when the extremity of the instrument has arrived at the upper edge of the internal sphincter, provided the chasm be so deep, we should steadily cut on the nail of the finger which has been introduced into the rectum. Then, turning the finger round, and pressing it on the end of the bistoury, we ought to depress both hands, and thus divide the intervening parts. Some surgeons prefer performing this operation with Savigni's double-bladed bistoury. When this instrument is used it should be introduced with a sharp-pointed blade concealed, until it arrives at the spot about to be transfixed; then, while the instrument is held steadily, the sharp-pointed blade ought to be projected through the gut, and immediately withdrawn, so as to enable the surgeon to pass the united blades through the orifice thus made, and to complete the operation, as when he employs the single probe-pointed instrument.

We must say that we think Savigni's a very clumsy and a very unnecessary instrument. We have found the common probe-pointed bistoury open to a serious objection. The size of the button at its end opposes such an obstacle to its being pushed through the wall of the rectum, that the surgeon is compelled to use a prejudicial degree of force. This tends to separate the tunics of the gut from the surrounding parts, and, (so we have found or fancied that we found,) to lay the foundation for the extension of the sinus.

Having occasion not unfrequently to operate for fistula, we had some years ago, a probe-pointed bistoury constructed, with as narrow a button and blade as are consistent with the requisite strength of the instrument, and with the prevention of a puncture on the operator's finger. We have found this instrument answer well, and we observe with pleasure that Mr. Syme has adopted, and represented in his book a bistoury of a similar description.

We return to Dr. Bushe.

"In some of these cases the integuments are livid and cribriform. They are badly supplied with blood, in consequence of the sloughing of the cellular tissue, and no effort that we can use, will cause the chasm to fill up. The proper course under such circumstances, is to remove the diseased integument, and if then, after we have dressed the parts properly, the chasms do not fill up, we will be compelled to divide the sphincter. I have seen a great many cases of this kind, and have verified, repeatedly, the justness of what I have asserted. In some instances, I have merely divided the diseased integument, throwing the different openings into one, and extending the incision forwards, backwards, outwards, and inwards, to the union of the integument with the surrounding parts, but in all these cases I have afterwards been compelled to remove the

angles of the flaps, as they curled up, became indurated, overlapped the wound, and in some instances cicatrized internally."

2. When the fistula is complete, the surgeon should remember the fact insisted on by M. Ribes, that the internal or rectal orifice is never at a greater height than an inch and a quarter. Extensive and deep incisions, fraught, as they confessedly are, with the risk of serious hæmorrhage, must be nearly, if not altogether unnecessary. Mr. Syme quotes the opinions and criticises the practice of Sir A. Cooper, Mr. Copeland, and others—opinions and practice founded on ignorance of the fact insisted on by M. Ribes. Mr. Syme concludes—

"If the case be as I have stated it, the opinions and practice of which these quotations afford a specimen must tend to occasion great unnecessary suffering; and, therefore, believing that I have not in any respect exaggerated the benefits which are derived from the principles at present advocated, I think it right once more to state them.

1. In complete fistula, the internal opening does not lie farther from the anus than an inch and a quarter, and is frequently much nearer to it.

2. In external fistula not communicating with the gut, the mucous membrane is denuded and attenuated at the part where the opening would be if there were one.

3. In performing the operation it is merely necessary to divide the parts lying between the external and internal apertures, or denuded part of the mucous coat corresponding to the latter.

4. In the after-treatment it is not necessary to interpose any dressing between the edges of the wound beyond the first forty-eight hours." 30.

It may admit we think of question, whether these propositions, especially the latter, are not too unconditional. We do not perceive how the abandonment of dressings after forty-eight hours, follows as a logical sequence of the premises, and in point of fact we do conceive that we have witnessed good, not evil, from light and judicious dressings to a much later period.

The mode of operating for complete fistula is briefly, but sufficiently described by Dr. Bushe. The surgeon should introduce his right or left forefinger into the anus, according to the side affected; then, with a probe-pointed bistoury, he ought to traverse the sinus, and having placed the finger *in ano* on the extremity of the bistoury, he should cut his way out, either by steadily depressing both hands, as before described, or else by projecting the knife through the anus, and pushing it downwards, and to the opposite side. If the operator be inexperienced, he may first pass a director, and on it the bistoury.

Mr. Syme adds a hint or two. When much difficulty, he remarks, has been experienced in finding the internal opening, it is a prudent precaution, especially for a surgeon not much practised in the operation, to push the probe through the sinus, and bring its point out at the anus, before using the knife, since it is thus impossible to miss the orifice by transfixing the thin membrane which surrounds it. If any sinuses extend under the integuments of the hip or perineum, they should now be laid open with the knife, and then small pieces of dry lint are placed between all the cut edges.

3. When the fistula does not open externally, the surgeon, says Dr. Bushe, may follow one of two methods, in performance of the operation. In the first, the orifice being discovered by the finger *in ano*, the operator

should carry the knife used for fissure along his finger, and fixing its extremity in the orifice of the fistula, he ought to cut outwards, dividing the sphincter, &c. In the second, having hooked a strong probe, and passed it into the fistula, he should press it down until it appears by the side of the anus, and then cut on the extremity, so as to convert the incomplete into a complete fistula; after which he ought to finish the operation with a probe-pointed bistoury, as above described. If this species of fistula be small, and situated between the sphincter and mucous membrane, or in the sphincter itself, we should use the small sharp-pointed bistoury.

After Treatment.—The following are the recommendations of Dr. Bushe upon this score:—

After, he says, these different operations for fistula, so much lint as will prevent the adhesion of the lips of the wound, should be introduced, and ought not to be removed by the surgeon, but allowed to come away with the fæces. The patient ought to be confined to his bed, and his diet should be as meagre as possible. On the third day, a dose of oil should be exhibited and after its operation the wound ought to be cleansed, and a saturnine poultice applied. On each succeeding day, until the wound is nearly healed; the surgeon should inject a little gruel and oil into the rectum, so as to procure an easy evacuation. On the fifth day, suppuration will be fully established, and generally the inflammation sufficiently subdued to permit the introduction of a very small dossil of lint into the bottom of the wound; a practice which, when repeated a few times, insures the healing from the bottom. At one period, surgeons followed the hurtful practice of cramming the wound with lint, but for some years past, they have stepped into the opposite extreme, introducing but a very small quantity of lint, applying but one or two dressings, and insinuating a probe occasionally, between the lips of the wound, so as to prevent adhesion. Should bleeding follow the operation, gentle pressure will generally be sufficient to check it. If this fails, we may try the application of ice; but if necessary, we may remove the dressings, and introduce a blunt gorget or speculum, and thus expose the bleeding vessel, which ought to be seized with a forceps, and tied.

Should the wound be slow to heal, we may exhibit Ward's paste or cubebs, and apply a lotion of the sulphate of zinc, sulphate of copper, or nitrate of silver, or we may prefer the ointments of the oxide of zinc, superacetate of lead, white precipitate or nitrate of mercury.

This concludes what Dr. Bushe has to say upon the fistula in ano. Mr. Syme adds some further observations.

1. *Complication of Fistula with Phthisis.* Mr. Syme touches lightly upon this. The surgeon should certainly endeavour to ascertain if pulmonary disease is present or not in any case of fistula on which he may propose to operate. If pulmonary disease, or a strong disposition to it, exists, the fistula, as a general rule, should not be cut. But if it is producing serious inconvenience, and injuring the patient's health, we conceive that the surgeon is justified in operating. It must be remembered, that pulmonary disease occasionally becomes quiescent, and a patient who appeared rapidly hurrying to the grave, may unexpectedly be restored to comparative health. Local diseases, such as fistula, scrofulous affections of the joints,

&c., appear in some instances to act beneficially on diseases of the lungs, and to operate as a sort of derivative remedy. But in others, the minority, they seem to aggravate pulmonary affection by impairing the constitutional powers, and their removal is beneficial to both.

It must be confessed, however, that the operation for fistula and its cure, is more frequently succeeded by pulmonary mischief than improvement. We have operated several times on patients, who, at the period of the operation, displayed no signs of disease of the lungs, but have afterwards been attacked with it, and sunk under it. The majority of surgeons must have witnessed the same thing, and hence the general misgiving with which the operation is regarded. Still, under all circumstances, not absolutely unfavorable, we are bound to give the patient the chance, perhaps a fair one, which the operation offers.

2. Uretho-rectal Fistula. We extract Mr. Syme's remarks upon this head. He presents a fair account of this complication of the fistula.

"Fistulous openings near the anus, and leading into the rectum, sometimes communicates also with the urethra. The origin of this complicated form of the disease is an abscess situated between the prostate gland and perineum, which, from not being evacuated early by incision, discharges its contents into the urethra and rectum, before overcoming the resistance to an outward course, which is opposed by the fascia of the perineum; and when at length openings do take place in the skin, they are usually situated at the verge of the anus and root of the scrotum. Flatus and thin feculent matter escape by the urethra, urine issues from the rectum, and a copious fetid discharge proceeds from the external orifices. The patient suffers great and unceasing distress, and, unless relieved by efficient treatment, ultimately sinks under the continued irritation and exhaustion.

These formidable consequences of allowing the abscess to open spontaneously render it incumbent on the surgeon to be careful in recognizing the disease at an early period, and giving free vent to the matter by an ample incision through the integuments and fascia of the perineum. The disease is generally induced by exposure to cold. It commences with pain in the region of the prostate gland, aggravated by micturition and going to stool, and is attended with more or less fever. When the matter begins to accumulate, difficulty is experienced in voiding the urine, sometimes to the extent of complete retention, and requiring the catheter to be introduced. The patient may continue in this state without any alteration, except the occasional occurrence of rigors, for eight or ten days or even longer, until the fluid makes a way for its escape. The perineum when examined is found to be fuller than natural. But, as the integuments retain their ordinary colour and consistence, this change may readily escape observation; and fluctuation, owing to the depth of the abscess, can hardly be perceived unless the finger is introduced into the rectum, through the coats of which the fluid is easily felt. I have frequently been asked to draw off the water when obstructed in this way, without any suspicion having been excited as to the cause of difficulty, and have known the practitioner first take alarm from observing the catheter contained pus. Examination by the rectum, together with the history of the case, will leave little room for doubt as to the existence of matter. But if there should still be any uncertainty, it will always be right to make an incision in the perineum, since this can do no harm, and the withholding of it exposes the patient to the danger of all the distressing consequences that have been mentioned, as resulting from spontaneous evacuation of the abscess.

When the disease has advanced to its fistulous state it is necessary to lay open all the sinuses; and even then the recovery is not always speedy or com-

plete. The operation should be commenced by dividing the septum between the gut and the cavity left by the abscess. For this purpose the knife is introduced into the orifice which lies nearest the verge of the anus, guided upwards until it enters the gut, and then carried outwards through the septum, which in this case is generally more extensive than in an ordinary fistula, from the internal orifice being seated higher, even above the inner sphincter. The sinuses which extend between the anus and scrotum are next to be laid open, and then pieces of dry lint are inserted between the cut edges. The deep incisions which are sometimes required and expose the patient to the danger of hemorrhage; and if there should be any appearance of this the bleeding vessels are if possible to be tied, or cold applied to the wound while the hips are elevated, which means seems far more effectual than pressure, owing to the looseness of the textures concerned. After the cure appears to be complete, a very small fistulous communication is apt to remain between the urethra and rectum, allowing a few drops of urine to pass occasionally. If this does not close within a moderate time, or proves annoying to the patient by exciting his alarm, a red-hot iron wire should be introduced into the orifice, exposed by a speculum, as often as may be necessary for inducing contraction and obliteration of the slender canal. In all cases of this kind, especially those which have been long established, it is proper to search the urethra and rectum for stricture; since this additional complication is not unfrequently met with, whether as a cause or consequence of the fistula it is not always easy to determine." 41.

3. Mr. Syme alludes also to the occasional connexion of fistula in ano with stricture of the rectum. The rectal orifice of the fistula is, he asserts, in the usual position, about an inch from the anus, and consequently below the stricture. The operation is, quoad the fistula, the same as if stricture did not exist.

4. Sinuses near the anus may proceed from caries of the sacrum, or from exfoliations of the ischium, or os pubis. In such cases, the caries or the exfoliation must be cured before the sinus will heal. Mr. Syme mentions two cases which are brief, but not interesting.

"About ten years ago I was asked to see a young man who had suffered several operations for what was supposed to be fistula, without obtaining relief; and had at length become exhausted beyond the hope of recovery. A careful examination led to the discovery of an exfoliation lying inclosed in a capsule of cartilaginous firmness, formed by the origins of the flexor muscles of the knee, from the tuberosity of the ischium. After its extraction, the patient quickly recovered, so as to marry and have a family. I lately saw a young woman who had suffered from *fistula in ano* for five years, and wished to have the operation performed. On introducing the probe I felt it grate past a hard surface, and extracted a thin scale of bone, which had probably been detached from the arch of the pubis, as she attributed her complaint to a strain sustained in hastily descending from the top of a coach." 45.

About four years ago we had a case of this description. A young woman had a sinus, opening externally near the anus, and appearing to be a common fistula ani. It had been operated on once without success by a surgeon in the country. On examining her, we found that the probe could, by management, be got to pass towards the ascending ramus of the ischium, on which it appeared to touch exposed bone. We introduced to this point a probe armed with melted nitrate of silver, every third or fourth morning, and on the intermediate days we injected Bates' red wash. The sinus healed perfectly.

This concludes what we have to say on the subject of fistula in ano. We proceed to:—

B. CONTRACTION OF THE ANUS.

This forms the subject of a short chapter, the twenty-fourth, of Dr. Bushe's book. It is not treated of specifically in that of Mr. Syme.

This condition of the anus, observes the former, may be produced; firstly by the approximation of portions of skin naturally at a distance; secondly, by the deposition of lymph in the submucous cellular tissue, constituting a species of ring around the anus; thirdly, by the effusion of lymph on the surface of the mucous membrane, which frequently assumes the form of filamentous bands: and fourthly, by a process of disorganization, manifested by irregular thickening, cartilaginous induration, and partial ulceration of the fine skin and mucous membrane extending upwards, sometimes for more than an inch.

The first species result from excision of hæmorrhoidal and other tumors the second and third from inflammation, while the fourth arises from the syphilitic poison.

Sometimes, in consequence of the contracted state of the anus, defecation gives rise to longitudinal laceration, or "fissure" of the mucous membrane. The introduction of the finger occasions great pain, but determines the nature of the disease.

"In the treatment of this disease the bowels should be kept soluble with castor oil, lenitive electuary, or emollient enemata, and the diet ought to be the same as in stricture of the rectum; should there be inflammation, leeches and fomentations will be necessary; when there is a fissure, the sphincter must be divided: if there be hæmorrhoidal tumours, they ought to be removed: and if there be much pain and nervous irritation, anodynes will become necessary. In all cases the anus ought to be dilated with bougies, and here I would observe, that great caution is even more necessary than in stricture of the rectum, especially when the disease is cutaneous, else much pain, weight in the loins, abdominal distress, and disturbance of the general health will ensue. When the contraction is the result of disorganization, produced by the syphilitic poison, anti-syphilitic remedies should be employed, though they are, for the most part, inefficacious, as such affections are generally fatal." 259.

Dr. Bushe relates several cases. We shall select two or three.

Case. Mr. D. complained to Dr. Bushe, in the latter end of 1829, of difficulty in defecating. He said, that he had been subject to piles for several years; but that, until within ten months, he could always evacuate his bowels easily. Dr. B. found the anus exceedingly narrow, the contraction apparently depending on infiltration of the subjacent cellular tissue. Dr. B. recommended the introduction of the bougie, and emollient lavements, both of which he used as directed, so that, in a few weeks, the parts had regained their natural condition.

Case. An officer who had endured great fatigues in campaigning, became the subject in succession, of hepatitis, dysentery, ague, and dyspepsia. By proper medical treatment, and great attention on his own part, he improved much, but never regained his former state of health. In 1824, he contracted an ulcer on his penis, which healed with great difficulty, and was soon followed by secondary symptoms, under which his health rapidly deteriorated.

When Dr. Bushe saw him, in 1826, he was greatly emaciated, with nodes on his bones,—an eruption on the skin,—chronic iritis,—and induration, thickening, and partial ulceration of the marginal integument and mucous membrane of the anus. He had suffered most annoyance from this last affection, having much purulent discharge, constant tenesmus, and excruciating torture, both at and after stool. Leeches, fomentations, saturnine and opiate poultices, the introduction of meshes of lint besmeared with lard and the extract of belladonna, as well as emollient and anodyne lavements, were tried in vain, at the same time that sarsaparilla and the oxymuriate of mercury were administered. He sank, however, in a few months, and, on dissection, about an inch and a quarter of the extremity of the gut were found diseased.

C. STRICTURE OF THE RECTUM.

It is in this disorder that quackery rejoices. Occurring out of sight, (if the quack may be trusted, out of reach also), the charlatan lies with comparative impunity, and trusts to darkness to shroud his doings. Though stricture of the rectum is seldom seen after death, it is wonderfully common during life. A patient has constipated bowels, he naturally applies to a rectum doctor, the doctor takes a long bougie, it hitches of course at the lateral turn of the rectum, or higher up than that, the case is one of confirmed stricture, the patient is doomed to be fleeced. Woe to him or her if he or she is rich, for it is rich people who have stricture of the rectum. Once in the hands of the charlatan and deliverance is afar off. The doctor takes care to insist on the necessity of employing some one who understands the introduction of long instruments, and he naturally, and properly congratulates the patient on his fortunate application to *him*. The bait too often takes, and the stricture is a confirmed one, so long as it *pays*.

We turn from this disgusting exhibition to the consideration of disease as it is, and not as cupidity would make it. Stricture of the rectum forms the subject of the twenty-fifth chapter of Dr. Bushe's work, and of the fifth of Mr. Syme's.

1. *Spasmodic Stricture of the Rectum.*

We are not alluding to spasmodic contraction of the external sphincter, a comparatively common and well-known affection, but to spasmodic stricture of the rectum itself. Dr. Bushe long doubted whether such an affection existed, but his doubts were dispelled by the occurrence of two cases, which he relates.

Case 1. Mrs. C., an exceedingly nervous lady, for seven months had suffered under weight and pain in the loins, fullness of the lower part of the abdomen, flatulence, want of appetite, and sourness of the stomach. She scarcely ever had a motion without taking medicine, and her evacuations, when of a certain consistence, were small, figured, and voided with difficulty. On examining the rectum with the finger, every thing appeared natural; but, when she stood erect, and strained forcibly, Dr. Bushe was enabled to

insinuate his finger into a portion of the bowel, which was considerably contracted. There was neither induration, nor thickening of the coats of the intestine, and by gentle pressure with the finger, the contraction nearly disappeared. Dr. B. ordered her small doses of blue pill, cathartic extract, and ipecacuanha, also, an infusion of calumba with soda; at the same time that he daily introduced the bougie, and allowed it to remain in the gut for an hour. In the course of a week, he diminished the quantity of medicine, and introduced the bougie only every other day. Her dyspepsia disappeared, and in two months, her stools were natural.

Case 2. "Mr. H., who was under my care this Summer, was attacked two years ago, after exposure to wet, with symptoms of inflammation of the bladder, which continued, notwithstanding antiphlogistic remedies were employed. He emaciated, became dyspeptic, much constipated, and when the feces were soft his evacuations were small, and figured. On examination, I found the sphincter ani in a state of spasmodic contraction, as well as a portion of the rectum which the finger barely reached, when he stood erect, and forced down. His bladder and urethra, were in a highly irritable state, and his urine was loaded with lithic acid. By a vegetable diet, tepid hip-baths, soda, pills of the blue mass and cathartic extract, together with the use of the bougie, he recovered in three weeks."

2. *Organic Stricture of the Rectum.*

Dr. Bushe declares that he has not found this complaint a common one:—"The cases I have seen, bore no proportion to the number I ought to have met with were the statements made in books correct." Dr. Bushe observes also that, independently of the malignant forms of disease, he has very seldom seen a contraction of the rectum, which was not within the reach of the finger. Dr. Bushe adds, in a note containing the opinions of various authors on the site of stricture of the rectum:—

"Before I finish this note, I may mention that, the inexperienced are apt to refer the opposition offered to the passage of the bougie, by the folds of the mucous membrane or the projecting ridge of the sacrum, to stricture of the gut. I am mortified to add, that I have good reason for supposing there are a few who make a profitable trade of treating dyspeptic patients for stricture of the rectum, asserting that the obstruction is high up, when in truth this intestine is perfectly free of structural disease. Such practitioners, by passing bougies, apparently cure, what in reality never existed, and thus obtain a character for skill in the treatment of this disease, which in truth they do not possess."

This is a subject of such importance, both to the Profession and the Public, that we cannot forbear from fortifying the sentiments of Dr. Bushe by corresponding, and equally strong ones, on the part of Mr. Syme. We may add that most surgeons of good sense and good faith entertain similar opinions.

"The simple stricture is seated very near the lower extremity of the rectum, a little within the sphincter, between two and three inches from the anus. It is here that the gut changes the direction of its course, and after following the curvature of the sacrum, makes a sudden turn outwards to its termination. There is thus formed a sort of angular projection by the posterior surface of the bowel, which may be supposed likely to increase when subjected to continued

irritation of any kind, and at length to constitute an inconvenient degree of contraction. It has been maintained that this is not the sole seat of stricture in the rectum, and that the disease frequently occurs farther up the canal, especially at the distance of five or six inches from the anus. Indeed, some have gone so far as to profess their ability not only to recognize, but to treat it successfully when seated beyond the rectum altogether, in the sigmoid flexure of the colon. That contractions of the great intestine may occur in any part of its course, I do not mean to question. But that the thickening and induration of its coats are in such cases usually confined to the narrow limits which constitute a stricture in the ordinary acceptation of this term, or that the strictured part can be accurately ascertained, and efficiently dilated by the use of instruments, I have no hesitation in expressing my unqualified disbelief.

It is very natural for persons suffering from constipation to suppose that obstruction of the bowel is the cause of their complaint; and they are consequently ready to believe in the existence of stricture, when it is intimated to them by their medical attendant, especially if, at the same time, hopes of relief are held out from the employment of mechanical treatment by dilatation. There is too much reason to fear that unprincipled practitioners have taken advantage of this facility in the disposition of their patients to promote their own unworthy views. But I should be sorry to allege, that a want of good faith was requisite either for the discovery or the treatment of strictures high up the rectum. The practitioner is hardly less exposed to deception than the patient; and if he examine the rectum, under an impression that there is a stricture existing in it, he will be very apt to believe that he has found one. In the feeble and unhealthy persons who are usually suspected to labour under the disease, the coats of the rectum are so thin and relaxed as readily to catch the point of the bougie employed for exploring the cavity, and thus impede its progress, which is also apt to be arrested by the promontory of the sacrum. As an instance of this, I may mention the case of an elderly lady whom I saw with Dr. Begbie. She had been supposed to suffer from stricture of the rectum, between five and six inches up the gut, and had been subjected to treatment for it during several years before coming under Dr. Begbie's care, by two gentlemen of the highest respectability in the city. Finding that the coats of the rectum, though greatly dilated, were quite smooth, and apparently sound in their texture, so far as my finger could reach, and conceiving that the symptoms of the case denoted a want of tone or proper action, rather than mechanical obstruction of the bowels, I expressed a decided opinion, that there was no stricture in existence. Not many months afterwards the patient died; and when the body was opened not the slightest trace of contraction could be discovered in the rectum, or any other part of the intestinal canal. One of the gentlemen who had been formerly in attendance was present at this examination; and wishing to know what had occasioned the deception,—which he said had led to more than *three hundred hours* being spent by himself and colleague in endeavours to dilate the stricture with bougies,—he introduced one as he had been wont to do, and found that, upon arriving at the depth it used to reach, its point rested on the promontory of the sacrum. Other cases might be mentioned to illustrate the uncertainty of information as to the capacity of the higher part of the rectum, obtained by exploring the gut, and to show how far the best-intentioned practitioners may be misled by the sources of fallacy I have endeavoured to explain." 113.

The nature of stricture of the rectum is the next point for consideration.

Mr. Syme remarks that the rectum, like the œsophagus, which it resembles in many other points of stricture, size, and morbid derangement, is liable to stricture of two different kinds. In one of these there is merely contraction of the coats, with thickening and induration of their texture.

But in the other there exists a morbid growth, attended with the symptoms, and prone to the changes, which characterize malignant degenerations of structure. Want of attention to this very obvious and necessary distinction has often led to great misapprehension in regard to the nature of the disease, and serious errors of practice in its treatment. By some it has been looked upon as always admitting of remedy at an early stage, and by others it has been considered always incurable; while the good effect of introducing bougies in cases of the simple or non-malignant kind has encouraged those who supposed the stricture to be constantly of a carcinomatous nature, to expect benefit from the employment of pressure in the treatment of cancer occurring in other parts of the body. These observations are very just.

3. *Simple Stricture of the Rectum.*

Mr. Syme says little on the nature of the stricture. Dr. Bushe relates the particulars of four dissections of it. In one, the lesion seemed to be confined to the muscular tunic and cellular tissue; in another, to the cellular tissue alone; and in two, to the mucous coat and cellular tissue. The alteration of structure, seemed to depend upon the deposition of lymph, which gave to the parts more or less hardness. The extent of the stricture varied from one quarter, to one inch, occupying the entire circumference of the gut, but in two cases, while in one it scarcely passed half around it. In each, the canal was contracted, and especially in one of those, in which the mucous membrane and cellular tissue were involved. So great, indeed, was the obstruction in this case, that it would not permit the extremity of the little finger to pass. The exterior of the intestine in each, appeared to be indented, while the interior was rendered irregular, by the folding or puckering of the mucous membrane; and in the two cases, in which this tunic was diseased, the inequality of surface was still further increased by vascular excrescences, which, in one, projected considerably into the bowel.

In a note, Dr. Bushe informs us that Morgagni gives the case of a woman who died in the Hospital at Bologna, in consequence of disease of the rectum, which, on dissection, was found to consist in a growth of protuberances, from the inner surface of the intestine, commencing six or seven digits from the anus, and extending to within one of this orifice. The coats of the rectum were hard and thick, and the protuberances, which were about the size of large beans, were smooth on the surface, solid and compact in their texture, and in colour and form resembled conglobate glands.

Dr. Bushe also quotes many passages from various authors on the subject of these "tubercles" within the rectum, but, as it appears to us, without arriving at any definite conclusion with respect to them. We therefore waive particular notice of them.

Age of the Patients. Dr. Bushe has seen the disease in a lad nine years of age, but the rest of his patients were under sixty, with the exception of one gentleman, who died of it in his seventy-second year. Mr. White observes that the disease is chiefly met with at the meridian of life. Mr. Copeland coincides with Mr. White. Indeed, this is a point on which most surgeons are agreed.

Sex. While some authors contend that the female sex is most prone to the disorder, others doubt or deny this. The point is by no means settled. Out of fifteen cases which have fallen under Dr. Bushe's observation, eight were those of women. Mr. Syme simply states that the disease is met with more frequently in females than males, and generally occurs about the middle period of life.

Predisposition. Some authors are of opinion that there exists such a predisposition. The point is not of trivial consequence, and deserves a little attention. Mr. White first advocated the opinion, that the narrowness of the colon at the termination of its sigmoid flexure predisposes to stricture. The idea has been eagerly received.

Mr. White says:—"Although it would be absurd so suppose that every case of habitual costiveness proceeded from mechanical obstruction in the passage, yet, from various conversations I have had with different sensible persons, (some medical,) who laboured under stricture of the rectum, I am much inclined to think that the predisposing cause is the gut being somewhat narrower about the termination of the sigmoid flexure of the colon, than it ought to be for the purpose of allowing a free and easy passage to the fæces. There is another circumstance, also, which is deserving of notice; as it has very much tended to confirm the above opinion, respecting the predisposing cause of strictures; and that is, several members of the same family having been afflicted with the disease, which has happened, to my knowledge, in different instances. Such an occurrence cannot, I think, be more satisfactorily accounted for, than by supposing some original malformation in the passage. I think it is not improbable, that sometimes the passage of the fæces may be interrupted, in consequence of an unusual projection of the last lumbar vertebra, or the superior part of the sacrum." 270.

Mr. Salmon has been fortunate in his observations, for he declares that he has "*repeatedly noticed several members of the same family afflicted with stricture.*" Considering the rarity of the disease, it must be admitted that Mr. Salmon has been remarkably lucky.

The observations of Dr. Bushe upon the point are decided.

"That the normal condition of the canal of the large intestine, at the junction of the sigmoid flexure of the colon with the rectum, disposes to stricture, I deny; because if this were the case, the disease would be much more common than it really is, and though I have spent more than one half of my professional life in anatomical pursuits, I declare that I have never seen a single instance of preternatural contraction of this portion of the bowel, without organic lesion. Nor can I assent to the common occurrence of this disease in several members of the same family, until I either verify it myself, or be assured of its correctness by a disinterested surgeon, adroit in his manipulations, and conversant with pathological anatomy. Finally, when Mr. White alluded to the obstruction caused by the sacrum, he forgot that the intestine had a mesentery at this spot, and consequently fell so far forwards, as to destroy any influence which the sacrum might otherwise have." 271.

Causes of the Stricture. Spasmodic contraction of the muscular fibres, inflammation, a peculiar condition of the sphincter ani, the venereal disease, and other causes equally vague, equally unproved, have been accused of producing stricture. Mr. Syme represents, we think, the state of the case,

when he remarks that, from the slow and insidious formation of stricture in the rectum, it is not easy to ascertain the circumstances which give rise to it. The analogy of what happens in other mucous canals would lead to the supposition that continued irritation of the gut is probably the immediate exciting cause. But the precise way in which this state is occasioned, or why, when its other effects are so common, it should so rarely produce the effects in question, are points that have not yet been satisfactorily made out.

Symptoms and Progress. Both Dr. Bushe and Mr. Syme concur in remarking that the disease not only comes on slowly and insidiously, but, even when established, produces symptoms rather calculated to mislead than to attract suspicion to their real nature. Dr. Bushe's account of those symptoms is more copious than Mr. Syme's, and we shall therefore follow the former.

There is a sense of weight and obstruction in the lower bowels, uneasiness, distention, and occasional spasmodic pain in the abdomen—eructations—precordial oppression—pain in the site of the stricture, loins, and sacral region, occasionally extending down the extremities,—vesical irritation,—bearing-down in females, itching and heat about the anus,—headache,—nervous irritability,—and dejection of spirits. The left colon is loaded with gas and fæces, as may be ascertained by an examination of the corresponding iliac fossa. Mr. White pointed out pain towards the occiput as a very common symptom. Dr. Bushe, however, has never seen a case in which the pain was confined to this region. The urine is generally scanty, high-coloured, and fetid, though Dr. Bushe has seen it abundant and limpid.

The bile, continues Dr. Bushe, is also generally vitiated and scanty. When the disease has continued for some time, the hæmorrhoidal vessels become engorged, and very commonly tumors form, which, for the most part, are produced by extravasated blood, and hence it is that, in old cases, the skin about the anus becomes thickened and elongated. In consequence of irritation arising from the stricture, and increased quantity of blood is determined to this region, and its return is so much impeded by the condensation of the walls of the bowel, and the accumulation of indurated fæces, that abscesses form in the cellular tissue, near the anus, and degenerate into fistulæ. The calls to stool are sudden, and amount to six or twelve in twenty-four hours; generally, two, three, or more, take place within a short time, and are accompanied with much straining, which in some instances, especially when the stricture is situated high up, gives rise to protrusion of the mucous membrane. Much gas and a small quantity of mucus, occasionally mixed with blood, is all that is commonly discharged; but every two or three days fæcal matter, in small pellets if hard, and in long, round, angular or flattened portions of small diameter if soft, is expelled. After each attempt, though the pain is very moderate, a sensation continues as if the bowels had not been emptied, and this is the reason why, in these cases, several evacuations, such as they are, follow one another at short intervals. When, however, a sufficient quantity of mucus or feculent matter has been discharged to give temporary relief, and from habit the amount is very trifling, the patient, who has been fatigued, desists from further attempts, until a sense of fulness indicates the necessity of making another effort. Occasionally, when the fæces accumulate above the stricture, which they frequently

do an immense quantity, they are rendered fluid by an abundant secretion from the mucous membrane; in consequence of which, the patient is enabled to discharge nearly or perhaps all the accumulated matter: thus, by an effort of nature, fatal consequences are warded off.

Dr. Bushe alludes, in a note, to a fact mentioned and satisfactorily explained by Mr. White. This gentleman's words are:—"With regard to the lessened diameter of the fæces just noticed, which must necessarily be the case, whenever a permanently contracted state of the gut takes place; yet it has happened, in some instances, where that change had been observed, that in a more advanced period of the disease, fæces of a natural size had occasionally passed. If the stricture should happen to be so low in the rectum as not to allow room for the accumulation of fæces, it must appear that they will be found uniformly small in diameter, while they continue to be discharged in a figured state. And also, when the stricture is high up in the rectum, so long as the gut below retains its natural expulsive powers, an accumulation will be prevented, and the diminished size of the fæces will continue. But, as the disorder increases, the inferior portion of the intestine loses its power; and when the contraction becomes considerable, a small quantity of fæces only pass at a time through the stricture, and not being sufficient to stimulate the lower part of the rectum, an accumulation goes on from time to time, until at length it becomes difficult to remove; and on these occasions, fæces of a natural size have been sometimes discharged." In illustration of this statement, he mentions the case of a clergyman, who died with a stricture in the upper part of the rectum, yet a few days before death, passed a mass of fæces "as large as the natural diameter of the gut."

Mr. Syme dwells strongly on the liability of both patient and surgeon to mistake the disorder, from the circumstance that the effects of a confirmed stricture are in general the frequent, often almost incessant discharge of thin feculent matters, owing to the copious secretion of mucus which results from the irritation of the disease; and that the thin slimy stools, occasionally tinged with blood, attracting more notice than the small indurated masses of fæces passed along with them, make the case assume the appearance of diarrhœa. The mistake thus committed not only prevents the proper means of remedy from being employed, but leads to the administration of astringents and anodynes, which must prove hurtful, by checking the process instituted by the system for its own relief. This consists in the copious secretion of fluids into the cavity of the great intestine, which lessens the solidity of the feculent matters, and facilitates their passage through the narrow channel that remains for their escape.

To return to Dr. Bushe. He remarks that:—

"When the stricture is fully within the reach of the finger, the canal feels narrow, indurated, and unyielding, for a greater or less extent, and in some instances we are able to pass the finger through the obstructed portion. Occasionally, it is rather higher up than we can reach; but in such cases, if the patient bears down forcibly, the diseased portion of the intestine will so far descend, as to admit of the requisite examination. When, however, the stricture is situated still higher up, we should sound the gut with the instrument recommended by Sir Charles Bell, which consists of an ivory ball mounted on a stalk of whale-bone. This instrument is much preferable to the bougie, because when the

ball is once introduced, the anus is no longer on the stretch, and if there be a second stricture, we can ascertain it with precision: perhaps, I might also add, that, with the extent of the stricture can be more correctly determined. In consequence of the great tenderness of the stricture in some cases, this examination is attended with considerable pain." 376.

As Dr. Bushe observes, it often happens that years pass by without the patient's general health being impaired. Ultimately, however, he becomes pale, emaciated, and hectic. Purulent matter, so acrid as to excoriate the anus, is now discharged in great abundance, and frequently it comes away when he coughs, or assumes his erect position. These symptoms increase until life is exhausted. Some patients, however, die from the accumulation of feces, before the disease has arrived at the stage now described—they become melancholy, pallid, excessively flatulent, and breathe with difficulty, in consequence of the resistance to the descent of the diaphragm caused by the distention of the abdomen,—the pulse lose their strength and regularity,—hiccough sets in, and they sink with symptoms of ileus; but before well-marked enteritic inflammation becomes manifest they are generally more or less troubled with cold feet, cramps in the legs, and a determination of blood to the head, all of which arise from the pressure made upon the aorta, or its primitive branches. On examination after death we find that the intestines are not only amazingly distended, but inflamed, and even partially sphacelated.

We have seen patients die in both these manners. On the whole we should say, from what we have seen, that a not unusual thing is to suffer from occasional attacks of ileus, and, finally, to be carried off by one of them. Mr. Syme mentions an interesting case.

Case. "Some years ago I attended a gentleman for *fistula in ano* together with stricture of the rectum. Not long afterwards he told me that his wife complained of symptoms similar to those he had suffered from the latter ailment. I proposed an examination of the rectum, which was declined, and I heard no more of the patient, until raised one night with an urgent request to visit her immediately. She was labouring under the symptoms of peritonitis in its advanced stage, and died before the end of many hours. The rectum was contracted almost to obliteration at the usual part." 117.

Mr. Syme observes that abscesses frequently form in the vicinity of the stricture, so as to lay the foundation of *fistula in ano*. In this case the sinus does not, as has been alleged, open into the gut above the contracted part, but holds its usual position near the anus, and should be regarded rather as an accidental consequence of the neighbouring irritation, than as a direct effect of the stricture.

Dr. Bushe proceeds to state, that, in some very few cases, the stricture is partially destroyed by ulceration; but it is much more common for the rectum immediately above it to be thus affected. In such cases, it generally happens that this intestine becomes incorporated with the bladder in the male, and with the vagina in the female, so that an extension of the ulceration may give rise to a recto-vesical or recto-vaginal fistula, through which the feces will be partially evacuated. A much more common consequence, however, of the ulcerative process, especially when the stricture is low down, is extravasation or fecal matter into the cellular tissue, and the formation, of stercoraceous abscesses, which degenerate into fistulæ. The number of these

fistulæ varies, sometimes there is but one or two, at others from six to twelve, or even more, particularly in women, in consequence of the greater abundance of cellular tissue in the perineum. In some instances, especially when the disease is situated high up, the rectum adheres to another intestine, and by a continuation of the ulcerative process a communication is established between them; but it much more frequently happens that no such adhesion exist, and consequently that the fecal matter is effused into the peritoneal cavity, an occurrence which is followed by a rapid and most horribly painful death.

Diseases simulating Stricture. These are thus set forth by Dr. Bushe.

"Retroversion of the uterus, enlargement of the organ or of the prostate gland, as well as tumours developed in the vicinity, may simulate stricture, by partially approximating the sides of the rectum, thus rendering defecation difficult, causing figured stools, tenesmus, mucous discharge, fullness, and a sense of weight in the sacral and perineal regions.

Malignant affections, hereafter to be described, have also many symptoms in common with this disease; but the sallow and leaden countenance the lancinating pains, and the rapidity of the ulcerative process in the former, will enable us to arrive at a proper conclusion.

Ulceration of the rectum, when attended with spasm of the sphincter, fissure of the anus, or spasm of the sphincter itself, may, by the inexperienced, be confounded with stricture; however, the excessive pain which attends and follows the evacuations in spasmodic affections of the anus, will sufficiently mark the difference between them, and that of which we are now treating; yet, it ought to be borne in mind, that spasms of the sphincter may co-exist with stricture.

Finally, painful chronic affections of the vagina may simulate stricture of the rectum, in consequence of the contiguity and nervous association of these organs. The diagnosis, however, is easily determined by an examination.

On the other hand, stricture of the rectum may be mistaken for a sarcomatous tumour, growing into the intestine; for when the feces collect above the stricture, they may so depress the walls of the bowel, together with the stricture itself, as to simulate a fleshy tumour with an extensive base. By searching cautiously, however, we shall be able to discover an opening in it, into which we can insert the tip of the finger, and thus discover the impacted and indurated feces." 279.

Treatment. The horizontal posture—light nutritious diet—injections, if they can be borne without inconvenience—mild aperients, if they cannot—anodyne suppositories, enemata, and hip-baths for the relief of pain and irritation—leeches for inflammatory symptoms—such are the obvious means suggested by reason and approved by experience as palliative remedies of more or less utility.

But the dilatation of the stricture must be the work of mechanical operations—of the use of the knife or the bougie, or both.

Mr. Syme observes that division of the contracted part with a cutting instrument, notwithstanding the obvious risk of hæmorrhage and inflammation incurred by doing so, has been occasionally practised; and with such speedy as well as complete relief, that some practical writers regard this method as the one which ought to be preferred. But as experience has ascertained that, in certain conditions of a constitutional and local kind, wounds of the rectum, even though of very small extent, are followed by serious or fatal consequences; and as the bougie, though not so speedy in its operation as the

knife, is equally effectual, and not exposed to the same objection, prudence seems to require that the practice of incision should be either entirely abandoned, or only used in particular cases with extreme caution. The best instrument for the purpose is the blunt pointed curved bistoury; and the stricture should be either divided backwards, in the direction of the sacrum, or notched at different parts of its circumference by cuts of smaller extent.

Dr. Bushe remarks that, when the stricture is near the anus, narrow and firm, the surgeon may hook it down with his finger, and then partially divide it, in two, three, or more points, with a hernial knife; after which he should insert a short bougie, so as to prevent adhesion of the incisions. This instrument ought to be introduced completely within the anus, and then secured in its place, by connecting a T bandage with the loop of tape attached to its thick extremity. A full dose of morphine should then be exhibited, and the patient put to bed. If there be much irritation and pain after the operation, the bougie ought to be removed without delay, and fomentations or hip-baths, anodyne enemata, and perhaps leeches employed, according to the urgency of the symptoms. Provided, however, that there has been no necessity for any interference, and that a dose of morphine has sufficed to keep the patient quiet, we ought, at the expiration of thirty-six hours, to remove the bougie, free the bowels with an enema, and again replace the instrument; after which, we should proceed with the dilatation in the ordinary manner.

Dr. Bushe adds in a note:—

“I think that many partial incisions are preferable to a single deep one because they are not so likely to be followed by hemorrhage, inflammation, or adhesion, and the bougie, when introduced, still continues to act on the edge of the stricture; whereas, when there is but one deep incision, the introduction of the instrument causes the edge of the stricture to turn upwards, and the pressure is then directed against its inferior surface. If the stricture be divided high up, and hemorrhage ensues, we must depend upon astringent injections for checking it; whereas, if it be low down, we can dilate the anus with a speculum, so as to discover the seat of the bleeding, and thus be enabled to apply pressure, the cautery, or ligature.

These directions are all important, for if the bougie be allowed to protrude through the anus, it will create so much tenesmus, as to render its removal necessary; and if after it has been passed above the anus, it be not secured, it may be drawn up into the gut, perhaps beyond the stricture.” 281.

We think there can be little question of the superiority of several small incisions over a single deep one. Nor can the utility of the former, in many instances, be questioned. But it is only in facilitating the passage and operation of the bougie that division is of service.

Mr. Syme and Dr. Bushe are in a great degree at variance with respect to the action and mode of employing the bougie. They differ on a very important point.

Mr. Syme contends that:

“The use of bougies in removing strictures is a remarkable example of good practice, originating from false principles. It was at first adopted with the view of destroying the obstruction through the effect of medicinal substances, which were in this way applied to the contracted part of the canal. And when experience had proved that bougies of the simplest composition, as those constructed of metallic substances, were not less effectual than those of the

medicated kind, the process of improvement was next ascribed to the mere dilatation acting mechanically as on a tube of dead matter. Hence it was thought impossible to introduce the instruments too frequently or for too great a length of time. At least once a day was thought essential, and they were permitted to remain four hours at a time. But the contracted canal is not composed of dead substance, and the stricture depends upon a peculiar morbid action of the living texture. The beneficial effect of the bougie, therefore, must consist in the excitement of another action opposed to the one formerly in operation, and capable of restoring the gut to its natural state.

It is the effusion of organizable matter into the cellular texture of the parts that causes the stricture, and it is the absorption of this deposit which removes the disease. The bougie by effecting pressure excites the action of absorption. And if the pressure be too great, too long continued, or too frequently repeated, there will be a great risk of causing more than sufficient irritation for the purpose; and of inducing again the very condition it is desired to counteract, the consequences of which must be a confirmation and increase of the disease. The perfection of treatment by means of the bougie may thus be considered to consist in using it merely to the extent requisite for producing its beneficial effects; and this is now fully ascertained to be much less than might at first view have appeared possible. Instead of requiring to be introduced daily, and to remain in the passage for hours, it appears that the bougie causes a sufficient degree of excitement if used every third or fourth day, and withdrawn immediately after being passed through the stricture. Under this system the improvement not only advances at least as quickly as when the operation is performed more frequently, but is likewise much more sure in its progress, and much less apt to be interrupted by undue irritation of the part concerned. These principles now regulate the treatment of stricture in all the mucous canals which are subject to it, namely, the urethra, œsophagus, and rectum." 123.

Dr. Bushe states that:—

"The introduction of the bougie in some persons, is attended with more pain and irritation than in others, as manifested by general uneasiness, aching in the loins, shivering, sickness of stomach, and pain in the abdomen; consequently, the frequency of the introduction, and the length of time it may remain introduced, ought to vary in different cases, else peritoneal inflammation, and even death may occasionally occur. In some patients, we shall not only be enabled to repeat the operation daily, but to allow the bougie to remain in the bowel for an hour or more. In others again, once or twice a week will be as often as we dare employ it, and even on such occasions but for a very short time. For the same reason, we can in some cases increase the size of the instrument much more rapidly than in others." 282.

We cannot altogether agree with Mr. Syme. It is true that the stricture, whether in the urethra or the rectum, is not dilated by mere mechanical pressure, and it is true, also, that such pressure, if pushed too far, is apt to induce an amount of irritation, which increases rather than diminishes the stricture. But we do not think it true that very trifling pressure is as effectual as a fair quantum of it, in promoting the dilatation of the stricture—we do not think it true that the mere passage of an instrument every third or fourth day will produce "at least as quick improvement" as the more frequent passing and prolonged retention of the instrument. Mr. Syme appeals to the urethra. So do we. If we wish a stricture of the urethra to be rapidly dilated we keep a gum catheter constantly in the canal, increasing the dimensions of the instrument as rapidly as we can with prudence. Most surgeons are aware of this, and it certainly makes against Mr. Syme. So

far as we should say that in the case both of the urethra and the rectum, it is better, provided we do not irritate the stricture, to pass the instrument frequently, and retain it each time for an hour or two. The limit to the frequency of introduction and duration of retention of the instrument, is the production of irritation. Short of that we do good—if we occasion that, we do mischief.

Dr. Bushe's directions for the use of the bougie are thus given:—

"A bougie of sufficient length to extend beyond the stricture, and so large, as to pass through it without force, should be chosen. The gum elastic and metallic instruments, answer when the stricture is within the reach of the finger, and notwithstanding the abuse which the latter have received, I must say that, I prefer them when the stricture is coupled with hæmorrhoidal tumours; but neither will suit when the obstruction is high up, as they cannot be curved at the moment, so as to insure their safe passage, and even if they could, their firmness would render them very dangerous. In such cases, wax bougies should be employed;* immediately before use, they ought to be immersed in hot water until they become pliant, then well oiled, and curved so as to correspond to the hollow of the sacrum, and lateral inflection of the sigmoid colon.

Previous to the introduction of the bougie, the bladder should be emptied, and the rectum washed out with warm water. The patient may either lie on his left side, lean over the back of a chair, or kneel on his bed, while an assistant separates his buttocks, and the surgeon takes the bougie in his right hand, and introduces it upwards and a little backwards, with the convexity towards the sacrum. If the stricture be more than five or six inches from the anus, he must turn the point of the instrument a little forwards, and to the left side, as in this way he will avoid the sacrum, and best enter the sigmoid flexure of the colon, should he desire it:—yet, to effect this last, it may occasionally be necessary to give the bougie an opposite direction, as the intestine frequently bends to the right side. In passing the bougie, too much care cannot be taken, all force should be avoided, and when it is suddenly checked in its course, it ought to be withdrawn for a short distance, its direction varied, and then passed upwards again." 284.

Mr. Syme does not contemplate the mechanical treatment of the stricture at any distance from the anus. His directions, therefore, have exclusive reference to stricture contiguous to that aperture. Mr. Syme prefers bougies of iron or elastic gum—the former the more durable—the latter the more pleasant. The instructions of Mr. Syme are simple: When the operation, he says, is to be performed, the patient should be placed upon his

* "White recommends the bougies to be made in the following manner:—

R. Ceræ flavæ lb. 1½.

Adip. suillæ lb. iv. m. ft. cerat.

N.B.—In Winter one part of wax will be sufficient to four of lard.

A long piece of lint, folded and tied at one end, is to be dipped in this ointment, and drawn through a wooden mould; when cold, it must be passed through another mould of less diameter; then to be re-dipped, and passed a third time. (Op. cit. p. 173.)

Salmon says, "The bougie is composed of fine linen cloth, heavily coated with wax, and a certain portion of diachylon plaister coloured with a small portion of lamp black." (Op. cit. p. 55.)

I have tried bougies prepared according to both methods, but much prefer those recommended by Mr. Salmon."

side, and then the surgeon, having in the first place satisfied himself as to the precise position of the stricture, by feeling it with his finger, passes a bougie lubricated with oil or lard up to the obstruction, and presses against it steadily but gently. If the resistance cannot be overcome without using force or causing pain, he withdraws the bougie, and tries a smaller one in the same way, thus proceeding until he gets one to pass through the contraction, immediately after which he withdraws it, and concludes the process for that time. If necessary some soothing means, such as an opiate injection, or the hip-bath, may be employed to allay any undue irritation that has been excited even by this cautious proceeding. At the end of three or four days, or a longer interval, if the patient continues to suffer from the former operation, the bougie which was introduced upon that occasion is again passed, and followed up by another of larger size; and thus the treatment is carried on until the disease ceases to occasion any inconvenience, and a full-sized bougie can be introduced with ease.

Dr. Bushe subjoins an account of two modifications of the bougie, which he has adopted.

"For a long time I was greatly dissatisfied with the bougies in common use; because by keeping the anus distended, they caused great pain. To obviate this difficulty, for some years past, I have used bougies three inches long, made of ebony, and mounted on a stalk of whale-bone. An instrument of this kind is not only easily retained, but is introduced with great facility, by inserting the left fore-finger into the anus, pressing the whale-bone stalk a little forwards and to the left side, while with the right hand, it is urged steadily upwards." 284.

The preceding description can be readily comprehended without the aid of plates. The succeeding will not, we fear, be so intelligible. Still it may be understood by any instrument-maker, and a surgeon who is desirous of giving the instrument a trial, may, without much difficulty, get one manufactured. In our own opinion, the apparatus is unnecessary, and might, if incautiously employed, be dangerous. With this brief expression of disapproval, we subjoin Dr. Bushe's account of this instrument.

"Having observed that the pressure, as well as the presence of a bougie in the stricture, was absolutely necessary for the absorption of the effused lymph, I found that in some cases, through I rapidly increased the size of the instrument, but little irritation followed the operation; therefore it occurred to me, that a bougie might be invented, which would dilate the stricture more rapidly, without the risk of lacerating the intestine. With this view, I designed the following instrument, which however, is not suited to stricture high up in the intestine. It consists of five parts. The first is a silver tube, five inches long, and three-fourths of an inch in circumference, which at the middle splits into four equal parts. The second is a piece of ivory, three inches long, round, varying in circumference, from one and a half to three inches, conical at the extremities, divided longitudinally into four equal parts, each of which is connected with a division of the silver tube, and grooved on its angle: in two points an inch apart, the groove, for an extent varying according to the size of the instrument, from one half to three-fourths of an inch, is deepened in a semilunar form, to within a line of the thickness of the instrument. The third part is a handle, three-fourths of an inch long, half an inch broad, and a quarter of an inch thick, with a worm in it for the reception of the screw. The fourth is a piece of silver wire about a quarter of an inch in circumference, and eight inches long, which runs through the tube, and terminates at one end in a screw, about

an inch long, and at the other end in eight semilunar plates, varying from one to three quarters of an inch in breadth, and within a line, as deep as each portion of the ivory is thick. These plates correspond to the pieces of ivory, and fit into the deep portions of the grooves spoken of. The screw of course passes into the worm in the handle. The fifth and last part of the instrument, is a small ring which fits on the silver tube, and serves to keep the split portions *in situ*.

Now, by pulling back the ring, and then screwing the handle, the semilunar plates are retracted from their beds, and the four ivory pieces separated." 286.

Dr. Bushe adds two observations, each of which deserves attention, and both should be balanced against the representations of some interested individuals.

1. He assures us that he has examined several persons in whom the rectum was perfectly sound, yet who had been considered to labour under stricture. Is there any surgeon in moderately good practice who cannot tell a similar tale?

2. He terminates the chapter with this admission:—that though he has ameliorated the condition of many a poor sufferer, he has never cured a single case—that he has known of no patient who was able to leave off the use of the bougie for any time, without an increase, or return of his complaint—and, finally, that those who speak of the frequency of their cures must either possess means of which we are ignorant, or have been deceived.

To us it has appeared that those who boast of their cures of stricture, have won their glory easily and cheaply, by removing what never had existence. In short, stricture of the rectum is the golden egg of regular and irregular quacks. We hope that the space we have allotted to the subject, and the manner in which we have dwelt on the real nature and exaggerated representations of the malady, will tend to disabuse some credulous, and to intimidate some designing persons.

Complication of Fistula with Stricture. Dr. Bushe observes that, when fistulæ communicate with the bladder or vagina, we cannot interfere with them until the stricture is pretty well dilated; then, we may derive advantage in the first form of disease, from allowing a gum elastic catheter to remain introduced, and in the second, from the actual cautery. Should a fistula open by the side of the anus, and the stricture be low down, we may advantageously lay open both at the same time; but if this be impracticable, we should dilate the stricture with bougies in the first instance, and then operate on the fistula, if it does not heal.

B. *Malignant Stricture, or Carcinomatous Degeneration of the Rectum.*

It is neither consistent with our best principles of nomenclature, nor is it indeed consistent with fact, to term the following alterations "malignant stricture" of the rectum. If stricture occurs, it is an accidental consequence rather than an essential feature of the malady, which is substantially a morbid growth or morbid change of structure, and, as a morbid growth, runs on to the destruction of the patient.

Dr. Bushe remarks that the malignant alterations of the rectum may be cartilaginous, lardaceous, or encephaloid. We cannot, however, consider

Dr. Bushe's description of these changes satisfactory. He says little with respect to them, and that little is vague.

The cartilaginous disease, he observes, may either commence in the form of hard tubercles on the mucous membrane, or in the muscular coat of the intestine, which is by far the most common,—the fibres become pale and firm, while the connecting cellular tissue undergoes a similar process of condensation, without any alteration of colour. As the deposition goes on, the cellular tissue frequently becomes lardaceous; but, however this may be, the walls of the bowel increase in thickness, and the cellular and muscular tunics are sooner or later confounded and softened. Sometimes the mucous membrane becomes studded with lardaceous and encephaloid vegetations, while the serous coat presents cartilaginous tubercles.

In two cases Dr. Bushe has seen the cartilaginous transformation uncombined—in one, the muscular coat and cellular tissue were affected—in the other, vegetations studded the mucous tunic.

The encephaloid transformation may commence primarily in the cellular tissue or mucous membrane, or may follow the cartilaginous or lardaceous changes.

Such is Dr. Bushe's account of these malignant alterations. He candidly admits its insufficiency.

Mr Syme's remarks are still more general. He simply states that the morbid growth generally possesses a moderate degree of firmness, and exhibits characters intermediate between those of carcinoma and medullary sarcoma. A good account of the malignant alterations of the rectum continues a desideratum.

From these changes of structure, whatever they may be, the cavity of the intestine, as Dr. Bushe remarks, is diminished, but this is not at all in proportion to the amount of disease, for the quantity of carcinomatous matter in any one part may not be great, though several inches of the intestine may be diseased. Indeed, it frequently happens that, though the bowel may have been considerably obstructed for some time, the softening down and separation of the projecting masses, again renders it pervious.

Mr. Syme observes that there has been some difference of opinion as to the comparative frequency of simple and malignant stricture of the rectum. But, from his own observation, he thinks that the latter is more often met with than the former.

Any portion of the rectum may be first attacked; the disease most commonly, however, commences at its junction with the sigmoid flexure of the colon; then, immediately above the pouch, and lastly at the anus.

Mr. Syme states that it generally occurs in the same part of the gut as the simple stricture, but is not so limited or regular in its extent. The diseased growth is sometimes confined to one side of the gut, at others it effects the whole circumference; and it is only in the latter case that there is stricture properly speaking. The swelling is usually of a very irregular form, and seldom extends less than several inches along the gut. Occasionally it descends quite to the anus, or even shows itself externally, but more frequently it leaves the coats of the intestine free for an inch or two within the sphincter.

The adjacent organs, as the bladder and vagina, are most commonly involved.

The causes of the disease are involved in great obscurity.

Those about or a little above the meridian of life, are most liable to this disease. No age, however, is exempt from it. Dr. Bushe has seen the encéphaloid transformation in a boy twelve years old, and the lardaceous in a female of twenty-three.

From an examination of published cases, Dr. Bushe finds that woman, and more particularly those who have recently ceased to menstruate, are most commonly victims to the malady.

When the finger is introduced, says Dr. Bushe, we may discover, firstly, that the intestine is firmer than usual, and a portion of its inner surface is covered with indurated tubercle; secondly, that it is hard and contracted for a considerable extent, and the mucous membrane studded with ulcers, more or less extensive, whose surface is unequal, granular or fungous, and surmounted with thick, hard and everted edges; thirdly, that a firm cartilaginous ring, generally with an uneven surface, and so extensive as barely to admit the extremity of the finger, occupies its circumference; fourthly that a portion of its inner surface is rendered irregular, and its cavity lessened by soft fungous growths; and fifthly, that the disease is confined to its lower extremity, and a fungus is thrown out either from a part, or all the circumference of the anus.

The following is Dr. Bushe's account of the symptoms usually displayed by a patient:—

"He suffers a burning pain in the rectum, which shoots through the pelvis. He is also tormented with weight in the back, aching above the pubes, numbness of the thighs, and painful retraction of the anus. His stools are frequent, difficult, painful, scanty, slimy, dark-coloured, and mixed with blood and matter of an ichorous quality. In some instances, however, they are figured or composed of small pellets, and occasionally they are liquid, abundant, and accompanied with dreadful tenesmus. He, moreover, labours under abdominal pain and distension, eructations, hiccough, nausea, and severe vesical irritation. Frequently, he cannot sit, and in some instances is unable to walk, only obtaining relief in the recumbent position. He loses his flesh and strength; the ichorous discharge increases, and runs out when he coughs, or even when he stands erect. There is occasionally considerable hæmorrhage, and he becomes sallow or leaden coloured, œdematous, and sinks under continued suffering. Sometimes however, when the disease is of a fungoid character, he may die from obstruction.

The excessive shooting pain through the pelvis, the sallow or leaden colour of the face, and the havoc made by the disease in the advanced state, enables us to distinguish it from stricture. It must be confessed, however, that unless it commences in the form of indurated tubercles or irregular fungoid growths, the diagnosis is not easy in the commencement." 293.

Treatment.—On this it is, unfortunately, idle to dilate. The relief of pain by sedatives and by the hip-bath—the gentlest aperients, as castor-oil, or mild enemata—the horizontal posture—and light nutritious diet, are the chief general remedies that experience can approve of. Bougies can do no good, and may do much harm.

The following are the sentiments of Dr. Bushe on the subject of removing the diseased portion of the bowel:—

"When the disease is confined to the extremity of the bowel, and does not extend upwards beyond two and a half or three inches, provided the general

health be good, we may, if the patient desires it, remove the affected parts, though, I would much rather avoid any such proceeding; for the return of the disease will be more than probable. Four years ago, I performed this operation on a man, in whom the cancerous transformation seemed confined to an inch and a half of the intestine, and in all probability commenced at the verge of the anus, I made an elliptical incision round the anus, with the extremities pointing, one forwards, and the other backwards, and by prosecuting the dissection inwards and upwards removed, without the least difficulty, the diseased extremity of the bowel. I found Museux's forceps very useful in bearing off the intestine during the dissection, and as I thought it all-important to see my way clearly, I secured the arteries, six or eight in number, as they were divided. The wound healed rapidly, and his general health improved; but there was a slight prolapsus of the bowel, which, however, was completely supported by prepared sponge, covered with oiled silk, and an elastic bandage. When the feces were liquid, he could not retain them; but when solid, he was generally able to anticipate their discharge, very little being expelled at each time. This man continued well for a few months, and returned to the country, but died, as I have been informed by his wife, of what she called consumption, seven months after the operation."* 295.

Mr. Syme remarks that, it appears that a considerable portion of the rectum, even to the extent of a couple of inches, may be cut out without immediately fatal or any very serious bad consequences in the first instance. But the patient can experience no benefit from this being done, and, in addition to the pain of the operation, must have an impulse given to the morbid action. And if there are any cases in which this excision of the rectum has been followed by a permanent cure, the disease could not have been of a malignant nature.

We agree with Mr. Syme. If the disease is really malignant the operation will be, in all human probability useless. If it is not malignant, the operation is not only unnecessary but cruel. Bad as are the chances from operations for malignant diseases every where, they are peculiarly bad about the rectum, and we think that the surgeon who removes the lower end of the bowel in cases of this description, is probably conferring no benefit on either science or his patient.

But what shall we say to the following startling statement made by Mr. Syme?

"It may seem unlikely that so severe a proceeding should ever be resorted to except in cases the most hopelessly incurable by other means. But, so far from this, however startling and incredible it may appear, the fact is, that removal of the extremity of the rectum has of late years been taught and practised in the city, as the best mode of treating those hemorrhoidal affections which are generally comprehended under the title of *prolapsus ani*. That a complaint which, as has been shown above, may be certainly remedied with little pain, no danger, and without any injury to the natural structure, should give occasion to an operation so dreadful in its performance and effects, as cutting out the end of the bowel, together with its sphincter, is to be deeply regretted, as well for the credit of surgery as the good of humanity. It is needless to say that, after this extirpation had been performed, the healing of the wound is attended with an extreme contraction, I have heard even obliteration of the gut; and the patient must consequently, like the victim

* Lisfranc was the first who performed this operation: he has repeated it many times, as well as other surgeons.

of ancient operation for fistula, suffer from the united miseries of constipation and incontinence." 131.

It is needless to expend words on the reprobation of such extravagantly bad practice.

Mr. Syme adds that, it is possible that cancer may occur at the verge of the anus, as it does in the somewhat similar texture of the lip, and then excision may be practised without any impropriety. But cases of this kind are extremely rare, and should be carefully distinguished from those in which the coats of the bowel are applied, where the knife can never be prudently or beneficially applied.

D. POLYPUS OF THE RECTUM.

The last of the diseases of the rectum to which we shall direct attention, is Polypus. It is described in the fourth chapter of Mr. Syme's work, and the twenty first of Dr. Bushe's.

Polypi occasionally form in the rectum. Sir A Cooper says, that, in the whole course of his experience, he has met with only ten cases of this description.

Sir A. Cooper says also, that the disease generally occurs in children, and very rarely in adults. The most advanced age at which he has met with it was twenty-two. In the few cases that have occurred to Mr. Syme, the patients had attained or passed the middle period of life. Dr. Bushe observes that, if we may form any opinion from the cases of polypi of the rectum that have been recorded, they appear to have generally occurred in adults, and for the most part in females.

The causes of the malady are involved in total obscurity. To say that they result from the operation of circumstances of an irritating nature is to seem to say much, but really to say little.

The nature and forms of the tumour can scarcely be considered very determinate. They are generally, says Dr. Bushe, of the mucous, though sometimes of the sarcomatous species. They may be multiplied or solitary. In the majority of cases they are situated near the anus, though they are not unfrequently beyond the reach of the finger. They are generally globular, being pedunculated or sessile. Oftentimes, they seem to be made up of the reunion of many lobes. Mucous polypi, are developed very slowly, and never grow to any great size, varying from that of a pea, to that of a pullet's egg. Sarcomatous polypi, on the contrary, grow rapidly, and attain a very considerable magnitude. Mr. Syme has always found Polypus of the Rectum single. The tumour, according to him, is of a round or pear shape, varying in size from that of a pea to the bulk of a hen's egg, and either smooth or lobulated on the surface. It has a narrow neck or footstalk—which is usually attached within an inch or two of the anus. In its consistence there is a considerable variety, the texture being sometimes firm and unyielding, at other times soft, and hardly distinguishable by touch or ocular inspection from the lining coat of the bowel.

Dr. Bushe gives a fuller account of the symptoms, than that presented by Mr. Syme:—

"Those afflicted with this malady, complain of weight and fullness in the

rectum, tenesmus, and difficulty in defecation. The evacuations, when soft, are contracted, flattened, and generally besmeared with blood, mucous, or pus, so as to lead to the belief, that there is stricture of the rectum, but the touch at once determines the point. If the polypus be situated near the anus, it will descend during stool, and when large, can only be returned with difficulty! In some rare instances, the bowel contracts with so much force, as to detach the tumour. The late Mr. —, on whom I attended in consultation with Dr. Stevenson, discharged a large mucous polypus in this way.

Mucous polypi are not very sensible, nor are they dangerous, if within reach and attended to in time; but should they be neglected, they may degenerate, and prove fatal. The fungous polypi are, however, much more sensible, and as they are prone to ulceration, the result will generally be fatal, because of the almost impossibility of removing every part of them, and the certain return of the disease, if this be not effected.

When the polypi increase in size and malignancy, the patient becomes sallow, and loses his appetite; his tongue is coated, and his thirst intense. He is troubled with flatulence, and colic pains. Emaciation, œdema, and hectic fever now set in. The fecal discharges can only be effected with difficulty, and in small quantity, and even this cannot be accomplished without the aid of enemata or medicine. The tenesmus and weight in the rectum increases; there is much muco-purulent discharge, lancinating pains, and, frequently, considerable hemorrhage." 229.

Treatment. If the neighboring parts are sound, these polypi should be, by all means, removed. Dr. Bushe recommends that tepid-water should be injected into the rectum, and when, by its evacuation, the tumour is prolapsed, the patient ought to lie on his side, and while an assistant separates the buttocks, the surgeon should seize the polypus with Museux's forceps, and cut it away with a curved scissors. If there be a plurality of these growths, they ought to be treated in the same manner. In some instances, the polypi do not descend with the evacuation of the water, and then we shall be compelled to dilate the anus with the speculum, and having carefully secured the tumour, and nothing else, in the forceps, to drag it down. Dr. Bushe has twice done this without hæmorrhage. Dr. Bushe alludes to the ligature but neither praises or dispraises it.

Mr. Syme prefers the ligature on account of the possibility of hæmorrhage.

"In a case which I saw with Dr. Hilson of Jedburgh, the tumour, which was about the size of a cherry, and appeared to have existed for upwards of twenty years, was attached to the posterior surface of the gut by a slender foot-stalk, long enough to permit its being readily protruded from the anus. A single ligature might have proved effectual, but, to make the strangulation as complete as possible, I passed a needle through the root of the growth, and tied each of its halves with a separate thread. The patient, who was a lady upwards of seventy years of age, recovered without any inconvenience. In another case, for which I am indebted to Mr. Craig of Ratho, it was necessary to pursue a different method.

"In January 1835, Mrs. H. aged 44, was delivered of her ninth child. The labour was in every respect natural and easy, and she made a good recovery.

On the 2nd of April 1836, I was sent for to visit her, and upon my arrival found that she had a very profuse discharge of blood from the rectum. She was pale and exhausted, with a small feeble pulse. As the bleeding had ceased, and I was unwilling to disturb her, I merely prescribed the horizontal posture and doses of acetate of lead, with Dover's powder every four or five hours. The

quantity of blood discharged could not be accurately ascertained. I saw two common water-pots nearly full, the one with scybalous feces and blood, the other apparently with blood. But she told me that more had been previously passed to the extent of inducing syncope. There was no return of the bleeding, and she made a good recovery.

On investigating the nature of this case, I was informed by the patient that for fifteen years she had been more or less annoyed by uncomfortable sensations in the pelvis, with pain in her back, loins, and thighs: That some years ago, while pregnant, and within six weeks of delivery, she had a similar bleeding nearly as profuse, after which she made a very tedious recovery: That during the births of her younger children, she had been sensible of an uneasiness in the posterior parts which was not formerly remarked: That when she strained at stool something frequently came down, which required to be returned; and that she had consulted a variety of practitioners for the complaint, without obtaining any relief.

I could hardly think, as seemed to have been previously supposed, that the uterus was the seat of the disease, because her labour had been natural; because the mensural evacuations were regular; and because when examined it was felt of the ordinary size as well as consistence. Suspecting that piles might be the cause of her complaint, I carefully examined the rectum, and in the hollow of the sacrum detected a large pendulous tumour attached to the gut by a narrow neck. It was lobulated on the surface, and in consistence resembled the placenta or lung. It could not be protruded. But this seemed owing rather to its size than the resistance of its root. Pulling it gently occasioned pain shooting through the pelvis. It was sensible to pressure near its origin, but not in its mass generally. Having no doubt that this polypus was the cause of all her suffering, I proposed its removal; and on the 18th of November Mr. Syme effected this by applying a ligature round its neck. In the course of a few days afterwards the tumour sloughed away in different pieces, which did not permit its structure to be satisfactorily ascertained. After this her general health improved, and she was relieved from all the disagreeable sensations which had so long distressed her, and at length produced a serious depression of spirits.

Great credit is due to Mr. Craig for discovering the polypus in this case, since the consistence of the tumour, as recognized by touch, was so similar to that of the intestinal coats, that I could not satisfy myself of its presence except by feeling on the neck and tracing it into the body of the swelling. The ligature was passed by introducing it on the point of the finger, carrying it round the foot-stalk, and then withdrawing it by means of a hook." 107.

When the polypus is very high (we return to Dr. Bushe) it will be impossible to prolapse it. Under such circumstances, the operator may be able to conduct a probe-pointed curved scissors along the finger, and cut through its peduncle, or it may be possible to tie it after the manner of an uterine polypus, as did Desault, even though it was six inches from the anus. Dr. Bushe, however, admits, that at such a height, there is much danger of including other parts besides the neck of the polypus.

We have now concluded the examination of the various diseases of the rectum. We would fain believe that the three copious articles we have devoted to their consideration will not prove altogether useless. It would be idle to dwell on the necessity for being thoroughly acquainted with these maladies. Frequently distressing, often remediable, their nature weighs heavily on a patient's comfort and repose of mind, and he anxiously seeks relief at the hands of science. Too often he does not receive it.

The work of Dr. Bushe is carelessly written, but certainly the most

valuable, that has ever appeared upon the subject. Mr. Syme's book is concise, clear, and practical. It does not aim at the comprehensiveness of Dr. Bushe's, but so far as it goes, it is likely to prove a valuable addition to the library of an operating surgeon.

ANATOMY OF THE TEETH.

ANATOMIE DU SYSTEME DENTAIRE, CONSIDEREE DANS L'HOMME ET LES ANIMAUX. Par *Ph. Fr. Blandin*, Chirurgien de l'Hôtel Dieu, &c. Avec une Planche, 8vo. Pp. 232. Paris et Londres, 1836.

[[II. THE WORKS OF JOHN HUNTER, F. R. S., WITH NOTES, Edited by *James F. Palmer*, Senior Surgeon to the St. George's and St. James's Dispensary, &c. &c. In Four Volumes. Illustrated by a Volume of Plates, in quarto. Vol. II. on the Natural History and Diseases of the Human Teeth, &c. London, 1835.

THE principal object of the Treatise of Hunter is to describe the Diseases of the Human Teeth. Their natural history occupies a brief portion of it, and the comparative anatomy of these important organs is not treated of.

But the object of Mr. Blandin is at once more comprehensive and more limited—more comprehensive in all that relates to the Anatomy of the Teeth—more limited, because their diseases are not made the subject of examination.

There appear to be more valid reasons for dental surgery forming a sort of separate art, than for the surgery of the eyes or of the ears being made so. In the former, much mechanical contrivance is requisite, so much as to render it exceedingly improbable that any one but a special *artiste* could excel in it. But the operations necessary for the eyes and ears can be as well performed by a dexterous surgeon as by an oculist or aurist.

If, however, a surgeon is unlikely to make good artificial teeth, or to be au fait at the business of cleaning or stopping them, he ought to be well acquainted with their structure and their functions, and to be conversant with the laws of their development and their decay. This is an useful as well as a philosophical study, yet probably it is one on which a large number of medical men are very scantily informed.

We shall present a pretty copious account of M. Blandin's Thesis, and introduce the more familiar sentiments of Mr. Hunter, when they seem to explain or to illustrate the text of the former author. We think we shall thus put our readers in possession of the most recent and most valuable information on a subject which cannot be uninteresting or unimportant to them.

M. Blandin observes, in his Preface, that he adopts the definition of Cuvier, and considers the teeth, as mechanical instruments harder than

bone, and placed in the vertebrated animals at the entrance of the alimentary canal, to seize and comminute the food, or to serve as offensive or defensive weapons.

The plan which he pursues is briefly stated. He first takes a rapid survey of the history of the anatomy of the teeth—then he gives a sketch of the dental system in general—then carefully describes the human teeth—and concludes with a view of their varieties in the different classes of animals.

I. HISTORY OF THE ANATOMY OF THE TEETH.

' In breaking this ground M. Blandin makes some eloquent complaints which are true of more medical matters than the Anatomy of the Teeth. Every dentist, says he, has unfortunately thought it necessary to write his book, and "these repulsive compilations have succeeded each other with desperate pertinacity, from the infancy of science to the present day.' —"A man must go like me," said M. Blandin, "the historical microscope in hand, on the hunt for the most minute discovery lost in the midst of an interminable heap of absurdities to have any idea of the tardy progress of dental anatomy." In this, as well as in other cases genuine discoveries have frequently met with the greatest opposition, and have been rejected for positive errors. Thus many modern novelties are of ancient date, and many a discovery has had many fathers. The child, indeed, has been often born before its parent, and would seem to have reversed the fable of Saturn, and devoured those who gave it birth.

M. Blandin divides the History of Dental Anatomy into epochs. We do not think it necessary for our present purpose to go into either one or the other, and shall merely note any curious or interesting circumstance that may be noticed, without respect to chronology.

a. M. Blandin cites, and we may quote, the definition of the teeth given by Homer:—"Barriers opposed by nature to slips of the tongue and the abuse of speech."

We know not how modern dentists will like the hint conveyed by the fact, that, in the temple of Apollo was suspended a tooth-instrument made of *lead*, to shew that only those teeth should be pulled out which could be removed by so weak an extractor.

b. Aristotle that universal genius, actually asserts that men have more teeth than women, and that this is the case with several other animals, as sheep, goats, and pigs! Nothing can more decisively demonstrate the inexact philosophy of former times than such specimens of it as this. A man writes an elaborate treatise, in which he asserts *ex cathedra* as a fact, what the very slightest examination of matters daily under his nose would tell him in an instant was no fact at all.

c. Aretæus makes a curious and candid confession. "God alone," says he, "knows the cause of the tooth-ache."

d. Pliny has his share of the wonderful. He assures us that human teeth contain a pernicious virus, and that a bite from them will destroy weak animals! So it would, no doubt, were it strong and they weak *enough*.

e. Sylvius said rather a good thing. Having copied the anatomical errors

of Galen, and the discoveries of Vesalius, which exposed those errors, having been objected to him, he replied, that:—"Galen could not have been wrong, and that the human organization must have changed since his time."

f. Thomas Bartholin is often quoted as an anatomical authority. His value may, in some degree, be estimated from this circumstance. He states in his works that he saw a man in whose jaw grew an iron tooth; and, what is more, he enters into an argument to show how such a thing may be!

M. Blandin pays moderate attention, and a respectable compliment to Hunter. We will not go so far as to say that he underrates the extent and importance of his labours, but certainly he does not over-estimate them. Whether the Preface of Mr. Bell to the present edition of John Hunter's works may be thought to do the latter, may perhaps admit of question.

"The state of Dental Surgery," says Mr. Bell, "at the period when Hunter wrote the following work was perhaps lower than that of any department of professional science or practice. The treatment of the teeth was still consigned to the hands of the ignorant mechanic, whose knowledge was limited to the forcible extraction of aching teeth, the manufacture of substitutes for those which were lost, and some rude methods of filling the cavities produced by decay. That this state of a branch of practice, as susceptible of a connexion with physiological and pathological science, and as improveable by such a connexion as any other, should have early attracted the attention of a man pre-eminently qualified for detecting and supplying such deficiencies, and whose labours, unparalleled as they are for their scientific importance, are not less valuable from the immense influence they have since exerted upon the practice both of medicine and surgery, might have been anticipated, from the peculiar character of his mind, which was too truly great to think any subject unworthy of his anxious attention which involved the improvement of the art of healing, or the extension of our knowledge of Nature's operations. If it may be stated that the work in question is perhaps the least felicitous effort of this extraordinary genius, and that of which the errors are most obvious and striking, some apology may be found even for these, in the confined nature of the subject, and especially in the obscure and anomalous structure of the organs of which it treats; whilst the basis which his experiments and observations have laid for subsequent improvements in our knowledge, both of the physiology and pathology of the teeth as well as in the treatment of their diseases, constitutes a never-ceasing claim to the gratitude and admiration of every scientific practitioner of dental surgery. If, therefore, it may with truth be said that he was the father of scientific surgery; if he may claim the high distinction of having placed the practice of surgery upon the only solid foundation of that physiological science, it is no less true of this humble department than of those more important branches of the art, in which are involved the knowledge and treatment of diseases which stand in immediate connexion with vital organs and functions." xii.

We pass over the remainder of M. Blandin's historical review of authors, and proceed to the Second Part of his Thesis which opens with some observations on:—

II. THE TEETH IN GENERAL.

He conceives that the most simple idea of teeth is to consider them as resisting bodies placed at or near the entrance of the alimentary canal, for the purpose of seizing and dividing the aliment, sometimes for the purposes of aggression or defence.

Teeth are a genuine production of the internal tegumentary system, of the mucous membrane which lodges them in a depression to which they adhere by one extremity. Sometimes they have no sort of connexion with the osseous system; most frequently they rest on it, either at its surface or in special cavities called *alveoli*.

In general the teeth are arranged in a row, or at all events, are so opposed to one another at their free extremity, so as to constitute pincers more or less sharp or blunted.

The Dental Organs are essentially composed of two elements—the part secreting, and the part secreted.

The *part secreting* the *Matrix, Follicle, Bulb, or Germ*, is an immediate dependence of the tegumentary system, a little sac analogous to the follicles of that system, with the exception, that, from its interior, there projects a *papilla* or *pulp* of variable form; a fasciculus of blood-vessels and nerves entering its base, unite it to the neighboring parts; while its other extremity presents an opening, the *neck* of the follicle, which is closed before the eruption of the tooth, but at a little later period forms a *gubernaculum* to it.

The *part secreted* is the tooth. Its form varies exceedingly. It is composed of two parts—the crown and root—the former free, the latter implanted in the follicle and almost always hollowed to receive the *pulp*.

The *Follicle* has the membranous organization of the integuments in general, differing from them only in the growth of so considerable a papillary body from one point.

The teeth are formed of ossiform calcareous layers included one within the other, and impermeable to the vessels and nerves of the Follicle.

The tooth is developed *within* the Follicle and *on* the Papilla by delicate layers which embrace it. The Papilla secretes these layers, each successive one of which is *within* its predecessors. The tooth elongates until it can no longer be contained within the follicle, when it penetrates it to make its way to the exterior. In doing so, sometimes it dilates the neck of the Follicle—sometimes it traverses it in a slightly different direction.

After its eruption, the tooth continues, for a longer or a shorter time, to increase, by the addition of fresh layers on the inside of the old. Then commences the process of destruction from without, the consequence of the attrition to which the tooth is exposed.

The duration of the teeth is limited by nature, who has in this manner limited also the duration of animal existence. But there are some teeth, the incisors, for instance, of the rodentia, which are capable of indefinite repair. The process of dentition, too, by substituting new teeth for those which are worn out, is a mode employed by Nature for softening, in some measure, the harshness of her own decree.

III. OF THE HUMAN TEETH.

We may disregard the descriptions given both by M. Blandin and by Mr. Hunter of the forms of human teeth, and of their divisions into incisors, molares, and so forth. We shall therefore examine at once:

A. *The Organization of the Teeth.*

M. Blandin examines first the organization of the hard, then that of the follicular part of the teeth.

a. Organization of the Hard Parts.—These consist, as our readers well know, of the ivory and the enamel. Bertin and Dr. Emanuel Rousseau, curator of the Museum of Natural History, have asserted that there is a third substance, internal to the innermost layer of ivory, and tending to encroach on the central pulp. M. Blandin, however, rejects this description as inaccurate, and considers this substance, when it apparently exists, as only ivory modified by a papilla not perfectly sound, or an ossification of the papilla itself.

The *ivory* constitutes the bulk of the tooth. We need not dwell on its form and situation. Its density is great. When treated by weak nitric acid, its calcareous matter is removed, and a flexible mass of the form of the ivory remains, which is capable of being reduced to gelatine by boiling. When calcined, it blackens and leaves a friable residue. Thus the analogy between ivory and bone is perfect.

According to Berzelius, 100 parts of ivory are composed of:

Phosphate of lime	61.95
Fluate of lime	2.10
Phosphate of magnesia	1.05
Carbonate of magnesia	5.30
Soda, and chloride of sodium	1.40
Animal matter and water	28.00.

According to Pepys, 100 parts of the roots of teeth are composed of:

Phosphate of lime	58.0
Carbonate of lime	4.0
Animal matter	28.0
Water and loss	10.9

We may observe that Berzelius and Morichini only have succeeded in discovering fluat of lime in the ivory. Fourcroy, Vauquelin, Wollaston, and Brandt, could not detect it.

Enamel.—While most anatomists confine the enamel to the crown, Bertin affirms that it forms a thin layer on the whole surface of the root. The latter opinion we believe to be unfounded. We shall not speak of the form or of the physical structure of the enamel. They must be familiar. Its chemical composition, according to Berzelius, is as follows. In one hundred parts, there are of:

Phosphate of lime	85.3
Fluate of lime	3.2
Carbonate of lime	8.
Phosphate of magnesia	1.5
Soda and muriate of soda	1.
Animal matter and water	1.

M. Blandin subjoins a pretended account of the analysis of Berzelius which is so grossly and palpably incorrect, that we are astonished at its remaining in the text.

According to Pepys, 100 parts contain:—

Phosphate of lime	78.
Carbonate of lime	6
Water and loss	16.6.

If the analysis of Berzelius be correct the enamel differs from the ivory, in having much less animal and more earthly matter. Many persons suppose that there is no animal matter in enamel. This would seem to be an error.

Between the enamel and the ivory, there may be seen a greyish line, which Cuvier has accurately described. This line ends at the neck of the tooth, and is continuous with that part of the follicle which adheres to the root of the tooth. This line marks the existence of a membrane. Before the ivory is formed, this membrane invests the pulp closely. As the ivory is secreted the pulp retires and shrinks, and then the ivory intervenes between the pulp and the membrane. Upon the latter, the capsule forms the enamel, and the membrane being compressed between the enamel and the ivory, all that is at length perceptible is the greyish line to which reference has been already made. This line or membrane, however, if M. Blandin may be trusted, serves as a connecting medium between the hard parts of the tooth and the follicle.

M. Blandin draws two analogies. The first compares the disposition of the ivory and the enamel of the tooth with the bone and articular cartilage of a diarthrodial joint. And a faint analogy both of structure and function is certainly preceptible.

The second analogy is between the ivory of teeth and the horny matter of the tegument, for example hair. This analogy was first announced by Aristotle. The ivory, like the hair, is arranged in concentric layers, and grows upon a vascular pulp.

b. Organization of the Follicle.—All that Mr. Hunter and his editor, Mr. Bell, have to say on this point may be dispatched so readily that we quote the passage written by the one, and the marginal note of the other. Mr. Hunter speaks of the follicle under the name of the *Periosteum of the Teeth*. He observes:—

“The teeth as we have observed, are covered by an enamel only at their bodies; but at their fangs they have a periosteum, which, though very thin, is vascular, and appears to be common to the tooth which it incloses, and the socket, which it lines as an investing internal membrane. It covers the tooth a little beyond the bony socket, and is there attached to the gum.” 20.

Mr. Bell corrects him thus:—

“The periosteum can hardly be said to be common to the tooth and the socket. It is, in fact, continued from the external surface of the alveolar process into the socket, and then reflected over the surface of the root. Thus, if a healthy tooth be removed from a dead body, it will be found covered with an extremely thin periosteum, and the alveolar cavity will also often remain lined by a similar structure. Probably when inflammation has once existed to a considerable degree in this membrane, the two layers become permanently united.” 20.

We turn to M. Blandin. He thus describes the alveolar-dental periosteum of anatomists, under the designation of the dental follicle.

The dental follicle, he says, locked in between the root of the tooth and the sides of the alveolus in the adult, is so compressed and adherent to both, that it is distinguished with difficulty in parts of its extent. Still its continuity with the mucous membrane of the gum is manifest. It is formed of two membranous layers—one external, of a fibrous character, confounded with the proper periosteum of the alveolus;—the other internal, more vascular,

and adherent to the root of the tooth, up to its neck. In extracting a tooth the internal layer is occasionally separately removed along with it, the external being left attached to the socket.

The *pulp* of the follicle is evidently formed essentially of the dental vessels and nerves in a pretty equal proportion.

Do these vessels and nerves extend beyond the pulp? In other words, has the ivory a vascular organization? This is a question which has long divided the anatomical world. We shall not attempt to go fully into it, for that would occupy some space, but we shall simply state the leading facts and conclusions of Hunter, Bell, and Blandin.

Setting aside the admitted fact, that the teeth cannot be injected artificially, Mr. Hunter arrived at the conclusion, that the ivory of teeth has no vascular organization, chiefly from the results of his experiments with madder.

"Take," he says, "any young animal, as a pig, and feed it with madder for three or four weeks; then kill the animal, and upon examination you will find the following appearances: first, if this animal had some parts of its teeth formed before the feeding with madder, those parts will be known by their remaining of the natural colour; but such parts of the teeth as were formed while the animal was taking the madder will be found to be of a red colour. This shows that it is only those parts that were formed while the animal was taking the madder that are dyed; for what were already formed will not be found in the least tinged. This is different in all other bones, for we know that any part of a bone which is already formed is capable of being dyed with madder, though not so fast as the part that is forming; therefore, as we know that all other bones when formed are vascular, and are thence susceptible of the dye, we may readily suppose that the teeth are not vascular, because they are not susceptible of it after being once formed. But we shall carry this still further: if you feed a pig with madder for some time, and then leave it off for a considerable time before you kill the animal, you will find the above appearances still subsisting, with this addition, that all the parts of the teeth which are formed after leaving off feeding with the madder will be white. Here then in some teeth we shall have white, then red, and then white again; and so we shall have the red and the white colour alternately through the whole tooth.

This experiment shows that the tooth, once tinged, does not lose its colour: now as all other bones that have been tinged lose their colour in time, when the animal leaves off feeding with madder (though very slowly), and as that dye must be taken into the constitution by the absorbents, it would seem that the teeth are without absorbents as well as other vessels." 18.

Accordingly Mr. Hunter considered teeth as "extraneous bodies with respect to a circulation through their substance." But he also considered them to have "a living principle," or they would not be capable of uniting with any part of a living body.

Mr. Bell is a decided advocate of the vitality of teeth, and, as he brings forward the strongest facts that we ever remember to have seen adduced in its favour, we shall extract his note upon the subject.

"The failure of all attempts to inject the substance of the teeth, with even the finest of the matters usually employed for filling the minute branches of arteries in other structures of the body, can scarcely be considered as conclusive since the colouring matter is, in all of them, too dense and coarse to pass into the vessels of many other parts, which, though in the healthy condition they do not convey red blood, yet, in a state of inflammation, become evidently in-

jected with red particles. I have, however, on another occasion, alluded to two very conclusive facts, which appear unanswerably to prove the vascularity of the teeth. One is the occasional occurrence of red patches in the otherwise healthy bony structure of the tooth when much inflamed, discoverable by breaking or sawing asunder the body of the tooth immediately after extraction. The other, the injection of a tooth with bile in cases of jaundice, of which I have seen more than one example. In the former instance, the red patches are of rather a bright colour, until they become dull and obscure by time; and in the latter the whole substance of the tooth is imbued with a bright yellow colour.

The experiments on madder would be far from conclusive on the point at issue, even were the details more complete. In the absence, however, of all information respecting the duration of each experiment, and especially the period which elapsed after the madder had been discontinued before the animal was killed, it would be futile to combat the conclusions which Hunter has deduced from them. Thus deficient, they only prove that the more highly organized bones, as might be expected, lose the colouring matter of the madder by absorption sooner than the teeth. The paragraph in which the results are summed up is perhaps as characteristic of the peculiar tendencies of Hunter's mind as any that can be found in his works. Concluding, from the failure of his experiments with madder, and from other peculiarities, that the teeth are devoid of a circulation through their substance, and therefore to be so far considered as extraneous bodies, his intense love of truth, which never suffered him even to escape from a dilemma by its slightest sacrifice, forces him to confess the existence of a living principle, because he found, from the result of other experiments, that they 'were capable of uniting with any part of a living body.' Instead, therefore, of endeavouring to render his theory consistent with itself by disguising or perverting one of the two incompatible conclusions to which his observations had forced him, he adopts them both, and is thus driven to the inference, that an organ can, at the same time, be 'an extraneous body,' and yet possess, 'a living principle,' and be 'capable of uniting with any part of a living body.'

The truth appears to be, that the teeth are truly organized bodies, having nerves and absorbent and circulating vessels, but possessing so low a degree of living power, and so dense a structure, as to exhibit phenomena, both in their healthy and diseased condition, which are very dissimilar from those which are observed in true osseous structures." 19.

It would be desirable that Mr. Bell's strong facts should be corroborated by other observers. Mr. Bell's evidence is as forcible as the evidence of one man can be, but one witness on a controverted point of science is never deemed sufficient. Our judgment is so apt to be influenced by our opinions, that, insensibly to ourselves, "whatever we think we believe, and whatever we believe we see;" and this it is which has given birth to so many contradictions or questions merely of fact.

We would observe that it is not necessary for a part to be *appreciably* organized, in order that it may remain in contact and connexion with the living tissues. The epidermis, for example, has no sensible organization, and if the horny matter between it and the cutis is vascular at all, its vascularity is of too low a character to be rendered evident to sense. The ivory of a tooth corresponds with the horny matter in question, the enamel with the epidermis. So far as probability, analogy, and evidence can carry us, we may conclude that the organization and vitality of the ivory is superior to that of enamel, and inferior to that of the osseous tissue in general. The exact quantum of organization and vitality it would be difficult, and perhaps not profitable, to determine.

After stating the arguments of the partisans and enemies of the organization of the hard parts of a tooth, M. Blandin appends his own conclusions. They are as follows :—

1. Vessels and nerves do not enter into a structure of either the ivory or the enamel.

2. The ivory enjoys upon its surface a peculiar sensibility, particularly exhibited in certain kinds of caries, which commence between the enamel and ivory in cases where the enamel has been removed by filling, or in other manners.

3. Can it be possible, says M. Blandin, that this sensibility resides in the *grey line*, to which reference has been already made?

4. This supposition will explain the instantaneousness with which tooth-ache follows certain applications, such as acids, to the surface of the tooth. The thin enamel only imbibes and transmits them.

These conclusions appear to us to be rather favourable to the views of those who regard the ivory as organized than otherwise. For the admission of sensibility on its surface is positive, while the theory of the seat of that sensibility in the “grey line” is dubious.

B. *Development of the Teeth.*

This is both a curious and an interesting subject. We remember well the difficulty we experienced as students, in comprehending the mode of growth of teeth, from the descriptions of the lecturer, and indeed from those of the systems of anatomy. Even at the present day, there are perhaps few who rightly comprehend the process. We shall present as succinct an account of it as possible.

a. Formation and Structure of the Follicle. If, says M. Blandin, we examine, about the second month of intra-uterine existence, the alveolar arches of the fœtus, we find a great number of dental follicles, lodged in the substance of the membranous folds which form the gum. These follicles are very small, situated in the gutter, which at this early period represents the alveoli, and covered by the deepest layer of the gum. Their form is globular; superiorly they have an union with the gum, and inferiorly with the bottom of the alveolar gutter, and with the vessels and nerves that lie in it below; laterally they are contiguous to the neighbouring follicles; and anteriorly and posteriorly they are bounded again by the gum.

After the fourth month, according to M. Serres, fibrous septa are developed between the follicles; these septa subsequently ossify, and separate of course the rudiments of the teeth from each other.

At the period of birth, the follicles are perfectly insulated from one another, as well as from the dental vessels and nerves; the canal for the latter, which at first was confounded with the alveolar gutter, is completed.

On opening a dental follicle at an early stage of fœtal life, it is found to contain a yellowish, viscid liquid—acid according to some persons, alkaline according to others—and occasionally presenting a fatty appearance. This liquid progressively diminishes in quantity from the first appearance of the tooth to its final exit from the follicle, at which period it disappears altogether.

The bottom of the follicle is occupied by a large papilla, the form of

which corresponds with that of the future tooth which it is to form. The opposite or superficial extremity of the follicle is connected with the gum, by means of a prolongation which constitutes the *gubernaculum*, or *iter dentis*.

This *gubernaculum dentis* is the neck of the dental follicle. It is so contracted, as to present no appreciable cavity in the early stages of development, though subsequently the cavity is supposed to dilate for the passage of the tooth. We say supposed, for while some anatomists believe it does dilate, others deny its permeability. Nay, there is a difference of opinion even with respect to its existence, for while some believe that the follicles of both the first and second dentition possess it, others limit it altogether to the latter.

On the whole, two things may be considered certain, and are not in any way disputed;—*that* there is a sac or follicle, formed of a membrane united to the gum; and, *that*, a pulp, or papilla rises from the bottom of this sac into its interior, the papilla being supplied or formed by the dental vessels and nerves which enter at its root.

But the exact composition of the sac or follicle has been and remains contested.

Mr. Hunter's opinions on this subject are briefly but decisively expressed. Speaking of the pulps he remarks:—

“They grow nearly as large as the body of the tooth before the ossification begins, and increase a little for some time after the ossification has begun. They are surrounded by a membrane, which is not connected with them, excepting at their root or surface of adhesion. This membrane adheres by its outer surface all around the bony cavity in the jaw, and also to the gum where it covers the alveoli.

When the pulp is very young, as in the fœtus of six or seven months, this membrane itself is pretty thick and gelatinous. We can examine it best in a new-born child, and we find it made up of two lamellæ, an external and internal: the external is soft and spongy, without any vessels; the other is much firmer and extremely vascular, its vessels coming from those that are going to the pulp of the tooth: it makes a kind of capsule from the pulp and body of the tooth. While the tooth is within the gum there is always a mucilaginous fluid, like the synovia in the joints, between this membrane and the pulp of the tooth.

When the tooth cuts the gum, this membrane likewise is perforated, after which it begins to waste, and is entirely gone by the time the tooth is fully formed, for the lower part of this membrane continues to adhere to the neck of the tooth, which has now risen as high as the edge of the gum.” 38.

Thus Mr. Hunter describes the follicle as consisting of two layers, united at first to the base or root of the pulp, and, when the tooth has been formed, to its neck.

Mr. Bell does not quite coincide with Mr. Hunter. His dissent and his views are both expressed in a note which we transcribe.

“The statement that the bone of a tooth is produced from the pulp is erroneous. This substance constitutes only the mould upon which the ossification is formed, between which and the pulp is placed a membrane of extreme tenuity, which I have termed the proper membrane of the pulp. It is slightly attached to the surface of the pulp, which it completely covers, and it is from the outer surface of this membrane that the bones are secreted. As the pulp recedes on the deposit of the successive laminæ of bone, the ossific membrane continues to cover it, and ultimately forms the well-known membrane lining the internal cavity of the perfect tooth.

The double investing membrane or sac which surrounds the whole rudiment as far as the neck of the tooth, and no further, had been proved, by repeated injections, to be vascular throughout, though Hunter states the internal, and Blake the external layer to be exclusively so. It is from the inner surface of this capsule that the enamel is secreted, as will be more particularly noticed hereafter. As soon as the enamel is secreted the capsule becomes absorbed, beginning at the edge of the horizontal surface of the tooth, where the enamel is first deposited. It is, therefore, not perforated by the rising of the tooth, as inferred in the text, but absorbed as soon as it has performed its single function." 39.

Jourdain and Herissant believe that the membrane of the sac is a single one, lining the alveolus down to the root of the papilla, at the level of which it terminates.

Desmoulins, Serres, and Cruveilhier believe also that the membrane of the sac is single, but they are of opinion, that, having arrived at the pedicle of the papilla, it is reflected on it to a height which they cannot satisfactorily determine.

Bichat and Cuvier concur in the existence of two laminæ in the follicle, but they affirm that the external lamina terminates on the pedicle of the papilla, while the internal like a serous membrane is reflected over it. According to this view the follicle would resemble the fibro-serous pericardium, or dura mater and arachnoid.

M. Delabarre is an advocate for the two layers. The external he supposes to proceed from the fibro-cartilaginous tissue which covers the alveoli, and which helps to form the gum, and descends to the pedicle of the papilla, near which it terminates; the internal layer, continuous with the buccal mucous membrane, descends towards the lateral part of the papilla, and terminates at the point which corresponds with the neck of the future tooth.

M. Blandin having enumerated, endeavours with partial success to reconcile these seemingly jarring statements. He thinks that, in many instances, at all events, those who have described two membranes in the follicle, have counted the alveolar periosteum as one of them; while those who have limited the sac to one membrane have reckoned the alveolar periosteum apart. M. Delabarre's view is justly deemed by M. Blandin the least probable of all.

M. Herissant has made some observations on the internal membrane of the sac, which have been, in some degree, confirmed by Rousseau, Desmoulins, and Cruveilhier, and which are, therefore, deserving of attention. The observations are the following:—

If the internal membrane of the follicle is carefully lifted from the ivory crown of the tooth, and its internal surface is instantly examined with a lens of about a quarter of an inch focus, the observer is struck with the appearance of a great multitude of minute vesicles, transparent, and disposed in order in rows, which are mostly parallel to the base of the tooth. At a certain period, these vesicles contain a limpid fluid, which at a later period becomes milky and thickened. M. Herissant conceives that this fluid being poured upon the ivory, and condensing on it, forms the enamel, by a process resembling crystallization.

Such is the anatomical description of the parts which more immediately concur in the formation of the tooth. It would be idle and tedious to enter on the alterations of the form of the jaw, or on other circumstances adapted

for the lecture-room, but not for a journal. We shall therefore set these elements of formation to work, and observe the mode in which a tooth is built up by them. In this we shall be brief, and either omit, or pass very lightly over familiar matters.

b. Formation of the Ivory and Enamel.—All agree that the papilla forms the ivory. This was anciently, but erroneously, supposed, to be an osseous transformation of the surface of the papilla. It is now admitted to be a true secretion from that surface, whether, as Mr. Bell contends, with the intervention of an investing membrane, or not, we cannot pretend to determine.

The formation of ivory begins at the crown, and at as many points as there will be future *cuspides* upon the tooth. The secretion of the calcareous matter is preceded by an evident redness of the papilla.

The formation of the enamel is not so simple, or, rather, not so well understood, as that of the ivory of teeth.

Some anatomists have insisted that the enamel is formed before the ivory. The general, and to all appearance the correct, opinion is the other way. But Cuvier affirms that both enamel and ivory are formed at the same time.

Hunter's account of the mode in which the enamel is deposited merits the attention of the physiologist.

There is, he says, another pulpy substance opposite to that which we have described: it adheres to the inside of the capsule, where the gum is joined to it, and its opposite surface lies in contact with the basis of the above-described pulp, and afterwards with the new-formed basis of the tooth. Whatever eminences or cavities the one has, the other has the same, but reversed, so that they are moulded exactly to each other.

Mr. Bell, in a note on this section remarks, that the substance which Hunter terms "another pulpy substance," adhering to the inside of the capsule, is nothing more than a thickened and turgid state of the inner layer of the capsule itself, surcharged with blood and probably also with the earthy matter which it is about to deposit, constituting the future enamel-covering of the crown of the tooth. This thickening appears to be somewhat analogous to that extraordinary turgescence which is observable in the mantle of certain species of snail, as our own *Helix Pomatia*, immediately before the calcareous winter operculum is poured out from every part of its surface.

Mr. Hunter continues:—

"After the points of the first-described pulp have begun to ossify, a thin covering of enamel is spread over them, which increases in thickness till some time before the tooth begins to cut the gum.

The enamel appears to be secreted from the pulp above-described, and perhaps from the capsule which incloses the body of the tooth. That it is from the pulp and capsule seems evident in the horse, ass, ox, sheep, &c., therefore we have little reason to doubt of it in the human species. It is a calcareous earth, probably dissolved in the juices of our body, and thrown out from these parts, which act here as a gland. After it is secreted, the earth is attracted by the bony part of the tooth which is already formed, and upon that surface it crystallizes.

The operation is similar to the formation of the shell of the egg, the stone in the kidneys and bladder, and the gall-stone. This accounts for the striated

crystallized appearance which the enamel has when broken, and also for the direction of these striæ.

The enamel is thicker at the points and basis than at the neck of the teeth, which may be easily accounted for from its manner of formation; for if we suppose it to be always secreting, and laid equally over the whole surface, as the tooth grows, the first formed will be the thickest; and the neck of the tooth, which is the last-formed part inclosed in this capsule, must have the thinnest coat; and the fang, where the periosteum adheres, and leaves no vacant space, will have none of the enamel.

At its formation it is not very hard; for by exposing a very young tooth to the air the enamel cracks and looks rough; but by the time that the teeth cut the gum, the enamel seems to be as hard as ever it is afterwards; so that the air seems to have no effect in hardening it." 43.

But Cuvier and Serres have strongly opposed these sentiments and descriptions of Hunter. M. Serres contends that the liquid of the follicle has no relation whatever with the formation of the teeth, but that it escapes on the opening of the follicle by the tooth in dentition.

M. Cuvier, whose description of the two laminæ of the follicle may be remembered, or may be ascertained by turning back a page or two, asserts that the enamel is deposited not immediately upon the ivory crown, but upon the internal layer of the follicle, which afterwards forms the greyish line intervening between the ivory and the enamel. M. Cuvier and his school regard the enamel as a true secretion from the interior of the follicle, and the difference between this opinion and Hunter's is, after all, not great. Hunter looked on the fluid as the secretion, and the enamel as crystallized from it. Cuvier regards the enamel as the direct product of secretion.

The reason why the root of the tooth is not enamelled has been differently explained according to the different theories of the formation of the enamel itself.

As, by Cuvier's the enamel is secreted in the sac, and the ivory out of it, the crown of the latter merely pushing the internal layer of the sac before it, it is clear that, as the sac does not cover the root, the latter cannot obtain enamel.

If the theory of crystallization is admitted, we may suppose that, the crown having been covered with enamel, the fluid, from which the latter is deposited, is exhausted.

Herissant conceives that the glands he describes as secreting the enamel from the inner surface of the sack, having coated the crown with their secretion, waste, and no more enamel is formed.

It appears to us, that as the parietes of the follicle are generally admitted to adhere to the pulp directly or mediately, opposite the site of the future neck of the tooth—and, as the follicle is generally admitted also to constitute the efficient agent in the formation of enamel, we should naturally expect the latter not to extend beyond the neck of the tooth.

c. *Growth of the Fang.*

Mr. Hunter's account of the increase of the ivory and formation of the fang is more concise than M. Blandin's, and is quite correct. We therefore turn to our countryman.

When the bone, he says, has covered all the pulp, it begins to contract a little and becomes somewhat rounded, making that part of the tooth which

is called the neck; and from this place the fangs begin. When the fangs form, they push up the bodies of the teeth through the sockets, which waste, and afterwards through the gum, which also wastes.

The pulp, he proceeds, has originally no process answering to the fang; but as the cavity in the body of the tooth is filled up by the ossification, the pulp is lengthened into a fang. The fang grows in length and rises higher and higher in the socket till the whole body of the tooth is pushed out. The socket at the same time contracts at its bottom and grasping the neck or beginning fang, adheres to it and rises with it, which contraction is continued through the whole length of the socket as the fang rises: or the socket which contained the body of the tooth, being too large for the fang, is wasted or absorbed into the constitution, and a new alveolar portion is raised with the fang; whence in reality the fang does not sink or descend into the jaw.

As the tooth grows, its cavity, of course, becomes gradually smaller, for the pulp having formed layer within layer of ivory upon its surface, must necessarily have shrunk to allow room for their deposition. Of these lamellæ of the ivory, the outermost, or first formed, is the shortest; the more internal grow successively longer, and for more and more of the length of the fang.

A tooth which has more than one root has a number of processes to its papilla, corresponding to the number of its roots.

As a natural limit to the deposition of the ivory results from its encroachment on the pulp, and the consequent diminution of this, the organ of secretion, so the same diminution or atrophy may be supposed to be the immediate cause of the cessation of the increase in length. Indeed the increase in one sense hinges on the increase in the other. For the innermost layers effected the elongation of the root, and when those layers cease to be formed the tooth must cease to lengthen.

D. Dentition.

We shall not tire our readers by dilating on the phenomena of dentition. We shall merely advert to a theory to which allusion has already been made, that the tooth does not actually produce ulceration of the gum, but traverses an opening ready made for it—the *iter dentis*.

The neck of the follicle has been already described. Some anatomists suppose that the pressure of the growing tooth opens this, and that, by its dilatation, and the ulceration of the false cartilaginous gum, dentition is effected. However plausible this may appear, we must confess that, in the dissections we have made, we have seen nothing that gives it countenance.

E. Formation of the Permanent Teeth.

Mr. Hunter's account of the mode of growth of the permanent teeth is confessedly imperfect, if not actually erroneous. Mr. Bell supplies an account, which we have great pleasure in quoting.

The rudiments of the permanent teeth are a sort of offset from the temporary. They are long connected with the latter, an important fact both practically and physiologically.

"At an early period," says Mr. Bell, "in the formation of the temporary

teeth, by a process which reminds us of the gemmiparous reproduction in the lower grades, both of animal and vegetable life, the investing sac, or capsule, gives off a small process, a bud containing a portion of the essential rudiments, namely, the pulp, covered by its proper membrane. This constitutes the rudiment of the permanent tooth. It commences in a small thickening on one side of the parent sac, which gradually becomes more and more circumscribed, and at length assumes a distinct form, though still connected with it by a peduncle, which is nothing more than a process of the investing sac. For a time the new rudiment is contained within the same alveolus with its parent, which is excavated by the absorbents for its reception, by a process almost unparalleled in the phenomena of physiology. It is not produced by the pressure of the new rudiment, as has been erroneously believed, but commences in the cancelli of the bone immediately within its smooth surface, thus constituting what may be termed a process of anticipation. The new cell, after being sufficiently excavated, and as the rudiment continues to increase, is gradually separated from the former one, by being more and more deeply excavated in the substance of the bone, and also by the deposition of a bony partition between them; and at length the new rudiment is shut up in its proper socket, though still connected with the temporary tooth by the cord or process of the capsule already described, which has in the mean time been gradually attenuated and elongated.

The situation of each permanent rudiment when its corresponding temporary tooth has made its appearance through the gum, is beneath and a little behind the latter, and rather further from the centre of the jaw. From the preceding statement, then, it will be readily understood that the upper part of the new sac being by means of the cord, connected with the gum, assumes, by-and-by, the same relation to that substance as that which the temporary rudiment, as before described, had originally sustained; whilst, from its substance being imbedded in the jaw, the vessels and nerves which had entered into the composition of the new process of pulp in its first production, probably became so enlarged and modified in their structure as ultimately to form the true dental branches. This is much more probable than to suppose that a new set of nerves and vessels is given off from the maxillary branches to join the pulps at a distance, through an intervening layer of bone of an indefinite thickness, to supply every new tooth.

We now, therefore, find the new rudiment in a state nearly analogous to that in which the parent tooth was originally placed, and with similar relations to the surrounding parts; the sac above, attached to the gum, and the pulp beneath, (covered with its proper membrane,) connected by its vessels, &c. with the jaw." 38.

The descriptions of Mr. Blandin do not coincide, in all respects, with the one we have quoted from the notes of Mr. Bell. We will present a brief summary of the former.

The germs of the permanent teeth may be perceived about the time when those of the temporary teeth are evident—about the third month of fetal life. They are very small, suspended from the membrane of the gum by a mucous filament about a line in length, and situated behind the germs of the first dentition. With the growth of the jaw, the germs of the permanent teeth descend (in the lower jaw) from the same horizontal plane with the germs of the temporary teeth, and are placed below them. This change of situation is permitted by a remarkable elongation of the "mucous filament," "neck," or "ductus dentis."

In the first instance, the germs of the two dentitions are contained in the same alveolus, but, at a later period, partitions are developed, and constitute

distinct alveoli for each dentition. This happens about a year after birth, when the partitions are ossified.

The alveoli of the permanent germs are pierced by the opening of a canal at each extremity—below, for the vessels and nerves of the pulp—above, for the “neck” or “ductus” of the follicle. The canals for the ductus do *not* open, according to the observations of M. Blandin, into the alveolus of the temporary tooth, but terminate on the alveolar border, behind the alveolus in question.

The follicle of the permanent teeth is a dependence of the mucous membrane of the mouth, as that of the temporary teeth is. The ductus traverses the canal appropriated to it, in order that it may reach that membrane, or, rather the canal has grown to accommodate it. Meckel has advocated the doctrine taken up by Mr. Bell, and quoted in these pages from him, that the germ of the permanent tooth is a sort of germiparous production from that of the temporary tooth; but M. Blandin disputes this, for he observes that the communication between them is only by the external membrane of the follicle, while the internal membrane of the respective follicles, is distinct in each. As the internal membrane is the efficient agent in the deposition or formation of the tooth, this appears to be a strong objection to the view; and indeed when we reflect that the number of the permanent teeth much exceeds that of the temporary, and that, consequently, many of the germs of the former cannot enjoy the benefit of parents in the latter, we may conclude that the idea of Meckel is rather fanciful than just. In all probability the connexion between the germs of the two sets, is rather for the convenience of furnishing an early vascular supply to the permanent germs, and, at a later period, of determining their situation, than for any more recondite purpose.

We should observe that the dental canal, for lodging the trunks of the vessels of the temporary germs and teeth, is itself temporary, and superseded by the true dental canal for the permanent teeth when they have become developed.

We have now gone into the interesting, yet rather perplexing subject of the mode of formation of the teeth, as deeply as the nature of this Journal, and other considerations, seem to render it advisable to enter. We refer those who wish for more explicit information to the works of Mr. Hunter and of M. Blandin. Of the former it is not necessary to speak. Its value and its defects have been long agreed on. The work of M. Blandin, as it is the last, so it is the most complete and circumstantial, and it presents the best text-book, for the anatomical student and teacher. Its merits are considerable—its faults are chiefly to be found in that redundancy of language, repetition of facts, and prolixity of style, which form the too general characteristics of continental medical literature.

But we cannot terminate this article, without presenting a short account of the development of teeth in the ascending scale of organization. Views of this description enlarge our ideas, and give them both generality and precision. Such a view is offered by M. Blandin in the concluding portion of his work, and we shall combine with his observations those of such other comparative anatomists as we find it advisable to introduce.

1. *Teeth of the Invertebrata.*

Many of the invertebrated animals are provided with what serve the

offices of teeth, but differ widely from the teeth of the higher classes in structure.

These pseudo-teeth, or dentiform organs of the invertebrata, are placed at the entrance, or near the entrance, of the alimentary canal, and serve to seize, retain, or comminute the alimentary substances. The lower the animal in the scale, the greater the probability that these teeth will be found in the stomach, rather than nearer the buccal orifice. Thus the crustacea and mollusca have principally these stomachic teeth—in fish they are not found lower than the pharynx—in reptiles they are seen in the posterior part of the mouth—and, in mammalia, they are placed on its anterior and lateral parts.

Insects and worms can scarcely be said to possess true teeth. At the entrance of the mouth, the integument is condensed, and the epithelium seems to acquire a horny consistence. Among the radiata, are some instances in which a dental apparatus has been described as existing. In other insects, some of the orthoptera, the locusts, &c., a triturating apparatus, consisting of scales or horny hooks, has been discovered in the stomach.

In crustacea and mollusca, the gastric teeth are peculiarly developed.

The stomach of the crab and lobster is a very singular organ. It is formed on a bony apparatus, in short a species of skeleton; and does not therefore collapse when empty. To certain parts of this bony structure, round the pylorus, the teeth are affixed. Their substance is extremely hard, and their margin is serrated or denticulated: as they surround the tube, near the pylorus, nothing can pass that opening without being perfectly comminuted. These bones and teeth are moved by particular muscles.

2. *Teeth of the Invertebrata.*

a. Fish.—The teeth of fish present great varieties in number as well as in the disposition of the parts composing them. They are found on all parts of the internal surface of the mouth and pharynx, and there are some productions of the integument in the neighbourhood, which M. Blainville has been led to regard as true teeth.

In the osseous fish, the teeth are implanted in particular alveoli. In the cartilaginous fish, with the exception of the sword-fish, they are placed at a distance from the bones, which, consequently, cannot supply them with alveoli. The former description of teeth are fixed—the latter are moveable, and capable of erection and depression.

The circumstance of teeth growing in this manner from the mucous membrane, independently altogether of the bones, is a happy illustration of the theory which represents the teeth as simple productions of the tegumentary tissue. The analogy between the teeth of man and the tegumentary teeth of animals lower in the scale is satisfactorily enough established.

In form, the teeth of fish exhibit many variations. Some are very pointed. These are very numerous when they exist, and the points may be single, or double, or triple. These teeth are directed inwards and backwards, so as to obstruct the egress, and facilitate the ingress of the prey.

Other teeth are flattened, and form a sort of pavement. We need not insist upon their various arrangements. We may cite a note from Coulson's Blumenbach.

“A third kind of teeth consists of an assemblage of tubes, covered externally

by enamel, and connected to the jaw by a softer substance, which probably sends processes or vessels into those bony tubes. This is the case with the pavement, as we may call it; of teeth, that covers the jaw of the *skate*.

A similar structure is observed in the *anarrichas lupus*; where the teeth, composed of bony tubes, are connected to spongy eminences of the jaws, which may be compared to epiphyses; and on their separation leave a surface like that from which the antler of the deer falls off." 77.

The alveolar teeth of the osseous fishes, become, after a time, anchylosed to the edge of the alveoli. After a variable time, too, they are replaced by other teeth in a manner which is not well understood.

In most of the sharks, says M. Blumenbach, the mouth is furnished with very numerous teeth for the supply of such as may be lost. The *white shark* has more than two hundred, lying on each other in rows, almost like the leaves of an artichoke. Those only, which form the front row have a perpendicular direction, and are completely uncovered. Those of the subsequent rows are, on the contrary, smaller, have their points turned backwards, and are covered with a kind of gum. These comes through the covering substance, and pass forward when any teeth of the front row are lost.

M. Blandin observes that we may readily determine from the nature and disposition of the teeth, the habits of the fish. Has he numerous pointed teeth turned backwards? He is one of the most carnivorous, voracious, and terrible tenants of the ocean. Do his teeth form a sort of pavement in his mouth? he lives on shell-fish, and breaks their shells with his natural nut-crackers. Has he simple teeth only in the mouth or in the pharynx? he is among the most guileless and least carnivorous of his order.

b. Reptiles appear to exhibit, in their teeth, their position in the zoologica scale, between fishes and birds. The tortoise, on the one hand, has a *beak*, like the bird; and, on the other hand, many reptiles resemble fish in the number, form, and main characteristics of teeth.

The beak of the chelonian reptile often presents, like that of the bird, dentations, which are a sort of rudimentary teeth. Beneath the horny layer is an osseous plate, applied, but not implanted on the jaws. This plate represents, or is supposed to represent, the ivory of a series of teeth confounded and consolidated together, whilst the horny layer is the analogue of the enamel.

Setting aside the chelonian, the other reptiles have pointed and conical teeth, essentially carnivorous, and not adapted for trituration. On this account they are generally directed backwards, and hooked with the concavity turned backwards too. The number of their teeth is considerable, and not always clearly determined. They are usually attached to the jaws, though in the majority of serpents they are also found on the palate.

The teeth of reptiles belong to the class of teeth without roots. They are conical, hollowed by a papillary cavity of the same form, and the maxillary teeth are lodged in alveoli which are narrower at their aperture than at their bottom; the base of the tooth corresponding with the latter, it is, of course, very firmly fixed in the jaw. The teeth closely resemble one another, and have more of the canine than of any other character.

They are in general developed at a very early period, especially in crocodiles, the young of which has as many teeth at birth, as when the creature is twenty feet long. The teeth grow, as in man, by depositions on the papilla.

The tooth being conical with its base on the papilla would grow indefinitely, but that it is hampered by the narrowness of the orifice of the alveolus.

The teeth of reptiles appear to be regenerated with facility. At whatever age they are pulled out in the crocodile, there are always found beneath or within them the germs of their successors.

We cannot enter on the details of the dentition of reptiles. We shall merely allude to the poison-fang, found in some species of snake. Blumenbach simply states that:—The external row of teeth is wanting in the poisonous species; which have, in their stead, much larger tubular fangs connected with the poison bladder, and constituting, in reality, bony excretory ducts, which convey the venom into the wound, inflicted by the bite of the animal.

M. Blandin remarks that the poison-fangs are semicircular in form, with their concavity turned backwards, and are attached to the superior maxillary bone. They usually occupy the anterior part of the arch of the palate, but in some serpents they are behind. They are not moveable, but the superior maxillary bone is peculiarly so. They are longer than the other teeth, and traversed by a canal; which, at the root of the tooth, receives the excretory duct of the poison gland, while it opens at the point of the tooth, and so carries the venom into the wound. The poison gland itself is the analogue of the parotid, and situate below and behind the orbit on each side. It contains a wide cavity, is embraced by a part of the temporal muscle, which compresses, and can empty it, and its long duct goes to the perforated base of the poison-fang.

In the membranous pouch, which encircles the base of the poison-fang a certain number of rudimentary fangs may be found—sometimes as many as eleven. They are formed in membranous capsules, disposed parallel to one another in the substance of the palatine membrane. Their magnitude is proportioned to their proximity to the fang actually in use. When this falls out, the one that is to replace it, and whose base has hitherto continued membranous, becomes united so accurately to the site of its predecessor, that the opening in its canal corresponds exactly to the duct of the poison gland.

c. Birds. We shall say nothing of the beaks and bills of birds—the analogues of teeth—as we quoted in our last number a pretty full account of them from Dr. Grant.

d. Mammalia. The subject of the varieties of teeth in the mammalia is too extensive for us to do justice to it here. This article has already extended too far to allow us to add much to what has gone before.

The teeth of mammalia have been divided into simple—composite—and mixed, or intermediate between those two.

The simple teeth are like those of man.

The composite teeth present so many irregularities upon their surface, that they seem formed of several joined together. On sawing them, their component elements are found so disposed that, instead of one being simply external to the other, the saw several times traverses both. They are formed by a number of papillary processes set upon a common base.

The mixed or intermediate teeth are those in which the interstices, &c. penetrate only to a certain depth, and in which the base is simple.

Although the majority of teeth have roots, yet, in some animals, as in the rodentia, and in the tusks of the hippotamus and elephant, there is no root. A tooth of this description has a conical form, and a great length, the base of the cone being implanted in the follicle.

In most instances, the teeth, as in the human subject, are formed only of enamel and ivory. But the composite and mixed teeth contain a third substance—the *crusta petrosa*, or cement. By analysis, the latter was found, in one instance, to be composed of—

Animal matter	43.01
Phosphate of lime	52.94
Carbonate of lime	4.05

We extract from Coulson's Blumenbach a brief note, on the arrangement of the component parts of the teeth in the *carnivora* and some of the *gravidora*.

"All the teeth of the *carnivora*, and the incisors of the *ruminating animals*, have the crown only covered with enamel, as in the human subject. The immense fossil grinders of the *animal incognitum*, or *mammoth*, have a similar distribution of this substance.

The grinders of graminivorous quadrupeds, and the incisors also of the horse, have processes of enamel descending into the substance of the tooth. These organs have also in the last-mentioned animals a third component part, differing in appearance from both the others, but resembling the bone more than the enamel. Blake has distinguished this by the name of *crusta petrosa*; and Cuvier calls it *cement*.

The physiological explanation of this difference in structure is a very easy and clear one. The food of the *carnivora* requires very little comminution before it enters the stomach; hence, the form of their molar teeth is by no means calculated for grinding; and, as the articulation of the jaw admits no lateral motion, these teeth, of which the lower are overlapped by the upper, can only act like the incisors of other animals. The food of graminivorous quadrupeds is subject to a long process of mastication, before it is exposed to the action of the stomach. The teeth of the animals suffer great attrition during this time, and would be worn down very rapidly but for the enamel which is intermixed with their substance. As this part is harder than the other constituents of the teeth, it resists the attrition longer, and presents the appearance of prominent ridges on the worn surface, by which the grinding of the food is much facilitated.

The distinction of the three substances is seen better in the tooth of the elephant than in any animal. The best method of displaying it is by making a longitudinal vertical section, and polishing the cut surface. The *crusta petrosa* will then be distinguished by a greater yellowness and opacity in its colour; and by an uniformity in its appearance, as no laminæ or fibres can be distinguished." 36

The consequences of the descent of enamel, between vertical processes of ivory, and the interposition of processes of cement or *crusta petrosa* between those of enamel are obvious on a glance at the grinding tooth of the elephant. For, as the surface of the tooth is worn down in mastication, the processes of enamel, which are capable of making a resistance by their superior hardness, form prominent ridges on the grinding surface, which must adapt it excellently for bruising and comminuting any hard substance.

It is curious that a great controversy raged in the time of Sir Everard Home, on the comparative hardness of the ivory and of the *crusta petrosa*. One would imagine that a physical fact like this would be susceptible of determination without difficulty. The difference, however, between the ivory

and crusta petrosa, in point of hardness, is so slight that, when we endeavour to ascertain the amount of difference between them, we do not find it easy to make up our minds.

There is another provision assuring to a great extent the permanency of the grinding teeth in the elephant, and, indeed, in other animals to whom the grinders are of great consequence. It is thus succinctly described in the notes to Coulson's Blumenbach.

We never see more than one grinder and part of another through the gum in the elephant. The anterior one is gradually worn away by mastication; its fangs and alveolus are then absorbed: the posterior tooth coming forwards to supply its place. As this goes through the same stages as the preceding grinder, a third tooth, which was contained in the back of the jaw, appears through the gum, and advances in proportion as the destruction and absorption of the other proceed. The same process is repeated at least eight times, and each new grinder is larger than that which came before it. The 1st, or milk grinder, is composed of four transverse plates or denticuli, and cuts the gum soon after birth. The 2d, which has eight or nine plates, has completely appeared at the age of two years. The 3rd, formed of twelve or thirteen, at six years. From the 4th to the 8th grinder, the number of plates varies from fifteen to twenty-three, which is the largest hitherto ascertained. The exact age at which each of these is completed has not yet been made out: but it appears that every new one takes at least a year or more for its formation than its predecessor.

From the gradual manner in which the tooth advances, it is manifest that a small portion of it only can penetrate the gum at once. A grinder, consisting of twelve or fourteen plates, has two or three of these through the gum, whilst the others are imbedded in the jaw. The formation of the tooth is complete therefore, first, at its interior part, which is employed in mastication, while the back part is very incomplete; as the succeeding laminæ advance through the gum, their formation is successively perfected. But the posterior layers of the tooth are not employed in mastication, until the anterior ones have been worn down to the very fang, which begins to be absorbed.

But there is a class of animals—the rodentia—the nature of whose habits and food requires cutting teeth, while their permanency is absolutely essential.

The incisor teeth of the rodentia are four in number—two in the upper jaw and two in the lower. They are long, strong, curved with the concavity directed backwards, and covered with enamel almost exclusively on the anterior surface. The consequence of this disposition of the enamel is, that the ivory behind wearing away faster than the enamel in the front, the edge of the tooth is always sharp.

The incisor teeth of the rodentia have no root. The base of the tooth, its broadest part, is set upon the broad and conical pulp, which not being hemmed by its own secretion continues to secrete indefinitely, and always to form fresh teeth below, as its free extremity is worn away by attrition above. This is the case with the tusks of the hippopotamus and elephant, &c.—the case, in fact, with all those teeth which have no true contracted roots.

A remarkable instance of the tendency to growth of teeth of this descrip-

tion, was presented by M. Devergie to the Academy of Medicine in 1825. It was seen in an old rat, killed at the Ecole Militaire. The right superior incisor tooth, on rising from its alveolus, was curved backwards and downwards so as to enter the mouth, passed through the posterior nares into the left nasal fossa, traversed it from behind forwards, then penetrated the maxillary bone, passed through the left incisive alveolus by the side of the left incisor tooth, was again curved backwards and downwards, and terminated just below the left orbit.

The left superior incisor was equally long, and curved, but did not take a similar direction.

The incisors of the lower jaw were very long, and curved. The right, which was the longer, described almost a complete circle, with a diameter of about eight lines. It passed in front of the orbit, the inferior border of which it had hollowed into a gutter, obliterated its cavity, and the corresponding eye, and its curved point would shortly have entered the cranium.

It is evident that some circumstances must have interfered with the use of these teeth at some period. Their free edges not being worn, and the papillæ constantly adding to their bases, their growth became excessive and their direction as whimsical as we have described it.

Here we must close the present article. The space allotted to us forbade our presenting a complete history either of the human teeth, or of those of other animals. But we have selected some of the most important, or most interesting matters connected with the teeth, both of man and of creatures lower in the scale, and laid them before our readers, in a manner as little disjointed as possible. What we have written may, if attentively perused, both instruct and entertain the less scientific portion of them.

Of M. Blandin it is not necessary again to say much. We recommend his work to those who are anxious to become acquainted with the details of dental anatomy. They will find in it much valuable information, and particulars which they will hardly be able to glean from any other monograph.

ANIMAL MAGNETISM.

AN INTRODUCTION TO THE STUDY OF ANIMAL MAGNETISM. By the Baron *Dupotet de Sennevoy*. With an Appendix, containing Reports of British Practitioners in favour of the Science. Small 8vo. pp. 388. London, 1838.

Who can live in this, who can have lived in any age, save those dark ones, when the Goth and the Vandal blotted out the rays of the sun of science in the West, without perceiving the progress of the human mind? The advancing tide of philosophy has had its Canutes, who have planted their feet upon the sand, and forbid its coming. But that tide has rolled, and will still roll on:

Labitur et labetur in omne volubilis ævum.

The history of philosophy teaches us the curious fact, that its progress has been at times assisted by error. A false theory led Columbus to the rectifi-

cation of geography, and the discoveries of Galileo confuted his own anticipations. Ingenious fallacies may mislead for a season, but, stimulating inquiry and eliciting facts, truth is ultimately generated from the very seeds of falsehood.

It cannot be denied, that the noblest additions to human knowledge have been violently opposed by prejudice and ignorance. Galileo, Harvey, and Jenner, were reviled and persecuted, each in his season and in accordance with the genius of his age. But neither can it be denied, that, if, in these instances, contemporary judgment was erroneous, or rather contemporary prejudice was strong, in many other cases, it has determined well, and posterity have set their seal on the damnation it pronounced. The voice of the public is generally rather right than wrong, and its false awards have been the exception, not the rule.

The temporary condemnation of Galileo and of Harvey has been the ruin of many a fool. If the world laughs at his folly, he consoles himself by thinking that it ridiculed those great men—and, as he *resembles* them in being a butt, he is sure he *will resemble* them in being immortal. The case is a tally of that of some young gentlemen, who deem themselves Byrons, not because they write new Giaours or Harolds, but because they wear their shirt collars open.

But we fear that the English are a stiff-necked people. Sir Thomas More tells us that Raphael Hythloday, the Utopian traveller, found, in England, all proposals for improvement encountered by the remark, that—“Such things pleased our ancestors, and it were well for us if we could but match them;” as if it were a great mischief that any should be found wiser than his ancestors.” The curse of the national character is its practical temper. It is much too exact, too matter of fact. A Laputan savant, would, we fear, find it useless to propose extracting sun-beams out of cucumbers here.

On this account we feel timid with respect to the success of the science, which has received the name of Animal Magnetism. It is almost too ethereal for this Bæotian atmosphere, and its mysticisms and sublimities can scarcely submit to our gross arithmetic computations. The proselytes to animal magnetism must be imbued with something of the spirit of its founder. They must entertain a due contempt for the insignificance of what in our grovelling spirit we consider ‘exact reasoning’ and ‘demonstration;’ must possess a strong taste, and profess a ready belief for the subtle essences and mystical powers of the elements.

The great Mesmer, the immortal discoverer of this science, was, as he ought to be, a man of quick perception and “vivid imagination.” He started by maintaining, in a thesis, the influence of the planets on the human body—a doctrine which, like magnetism, appearing to be contrary to common sense, has been most injuriously neglected. Now that magnetism is taking its proper place among the sciences, it may be hoped that planetary influence will also have a place beside it. When men are magnetised, children should have their horoscopes. We shall at length, perhaps, do justice to the shades of Sidrophel and Lilly. Like Mesmer, those illustrious men—

“With the moon were more familiar
Than e’er was almanack well willer,

Knew when she was in fittest mood
 For cutting corns or letting blood ;
 When for anointing scabs or itches,
 Or to the bum applying leeches."

"But to return to the kindred spirit of Mesmer. He maintained, says M. Dupotet, that the sun, moon, and fixed stars mutually affect each other in their orbits; that they cause and direct on our earth a flux and reflux, not only in the sea, but in the atmosphere; and affect in a similar manner all organised bodies, through the medium of a subtile and mobile fluid which he conceived pervaded the universe, and associated all things together in mutual intercourse and harmony. How analogous is the simple majesty of this doctrine, with that of animal magnetism. How independent of the debasing spirit of demonstration.

"About this time the mineral magnet was held in much repute as a therapeutical agent, and Father Hell, a Jesuit, and professor of astronomy at Vienna, invented steel-plates of a peculiar form, which he applied with much success in the treatment of various diseases. The medicinal efficacy of these mineral-plates he imagined depended on their form; but Mesmer soon discovered that although their application apparently produced certain manifest effects, yet that he could, without using them at all, by passing his hands from the head downwards towards the feet of the patient, even at a certain distance from the body, induce the same effects." 7.

The powers of the mineral magnet over the ills to which flesh is heir, are so familiar to the medical world, that there could not be culled a more apt illustration of the equally marvellous and equally certain powers of magnetism of the animal sort.

It is pleasant to contrast the good and the bad, and it is useful to signalize the merits of the former. While the prejudiced Académie des Sciences de Berlin, replied to an address of Mesmer's:—"Qu'il n'était qu'un visionnaire;" the more philosophical Académie of Bavaria elected him a member.

Mesmer's career was a brilliant one. Every where he effected cures—no where, does M. Dupotet tell us that he failed. The stupid Academy of Paris was, of course, opposed to him. It could not be expected that a society composed of the best medical science of France, could be otherwise than prejudiced, jealous, and blind. As the acme of its mingled folly and injustice, a Commission of the Academy had the absurdity to declare that:—"L'imagination fait tout, le magnetisme animal est nul: imagination, imitation, attouchement, telles sont les vraies causes des effets attribués au magnétisme animal." But though the Academy stultified itself in this manner, the true love of science, and candour, and conviction, were not extinct in France. A few doctors, and crowds of "persons of rank and fortune," saw, believed, and were initiated. "Sociétés de l'Harmonie" were every where instituted, and the progress of truth was cheering. What these Sociétés de l'Harmonie" were, may be gathered from the following details. They seem to have been agreeable enough, and were founded probably on the classic model, of the rites of Venus and of Pan.

"All Mesmer's arrangements were well adapted for producing a powerful impression on the minds of his patients. They were all assembled in one large apartment, and seated around an impressive-looking apparatus, while a dim

mysterious twilight only was shed upon them from without, or from a few lamps; notes of soft music were heard from a concealed corner; and young men, selected for their beauty and robust forms, began to perform the various manipulations of the art, passing their hands over the face, bosom, body, and limbs, of each of those who sat around, in silent expectation of some extraordinary sensation, of which they had heard from Mesmer or their friends. Is it wonderful that ardent and voluptuous French girls should blush, or that their pulse should quicken, or their breathing become rapid, under such excitement as this? or that a worn-out old *debauché* should perceive unusual sensations? or that the nervous and debilitated should tremble at such treatment? When all that excitement of the animal passions—imagination, anxiety, love, and lust—could accomplish, then Mesmer himself entered the apartment, habited in delicately-coloured silk, and wearing an air of deep gravity and importance: walking about as if endowed with magic power, he presented to each in turn a rod, or his hand, which *they were told and believed*, was charged with the magnetic virtue. Some of them were then at once seized with hysterical fits, and all the others, by imitation, followed them. ‘As soon as one began, says the first report, ‘another succeeded.’ ‘The convulsive state,’ says M. Du Potet, ‘once excited in a patient, never failed to manifest itself in all the others.’

Hère, then, we have every circumstance pointing out the true nature of the crisis. The patients were nearly all women, and these the most frivolous of the voluptuous court of Louis XVI., during the most licentious period of modern France; there was therefore the favourable predisposition in ardent animal passions, in a superficially cultivated intellect, in a body weakened by dissipation, and a mind yearning for some new and powerful excitement; there were expectation, anxiety, and perhaps some fear of strange and novel feelings—for Mesmer never failed to let his patients know what might (and *therefore would*) be the effect of the magnetic influence: there were the awe with which ignorance looks up to one supposed to possess supernatural power, the heated passion excited by the meeting and the contact in no decent degree of the opposite sexes, and perhaps some modest fear.*

The world must feel a lively curiosity to learn the fate of a man like Mesmer—a man destined to revolutionise science, and so admirably qualified to improve our moral natures. For the benefit of his health, he withdrew to Spa, whither he was followed by numerous persons of rank and fortune, who were still desirous of placing themselves under his treatment. His personal history at this epoch is not detailed by M. Dupet. Perhaps we have lost much by our unacquaintance with it. But we are delighted to add, that, after receiving a subscription, which was raised in compensation for his having devoted his life to the promulgation of so important a discovery, he retired to his native place, where he died, much beloved and honoured, on the 5th of March, 1815, at the advanced age of eighty-one. It is not always that the real benefactor of their species are so substantially rewarded. Mesmer, St. John Long, Morison, shall we say Hahneman, may be pitted against Galileo and Harvey. The appreciation of the former may serve, perhaps, to compensate for the wrongs of the latter.

* The preceding passage is from the second of a series of letters on animal magnetism in the Medical Gazette. The writer is not imbued with that “aptitude à croire” which is so proper in the examination of new and incomprehensible doctrines. On the contrary, he displays a lamentable disposition to disbelieve what seems impossible, to laugh at what appears ridiculous, and explain strange facts on natural rather than miraculous grounds.

The Revolution shook the science of Mesmerism, and disturbed the masonic reveries of the Sociétés de l'Harmonie. But when the political storm began to break, Mesmerism reared its head in Germany and France, and participated in the advances of the other divisions of human knowledge. Academies *franc'd* it—governments legalised it—fools laughed at it—and choice spirits embraced it. Among these latter, none were more choice than the Marquis de Puységur, and the Abbé Faria, gentlemen who, from their professions, must have been qualified to reason well upon medical matters. The Marquis was the discoverer of magnetic somnambulism. The Abbe opened in Paris an institution for magnetism which attracted the attention of many scientific men. He was himself endued with the magnetic power to a degree which would have appeared incredible, were it not a notorious fact that its intensity augments with exercise. The daily increasing converts to magnetism attached themselves to this man of wonders; they listened with interest to his lectures, and learned by his instructions how themselves to conduct the operation.

A science, like this, could not long remain, like the French Republic "one and indivisible." Dissent became inevitable.

"Three separate schools of magnetism arose:—1st, the original school of Mesmer. This prevailed principally in Paris. Its doctrines were very similar to those of the Epicurean philosophy, as described in the poem of Lucretius. Its disciples believed in the existence of the universal fluid above described, and conducted the operation physically,—that is, by passing the hands immediately over, or at a short distance from, the body of the patient. 2nd, the school of the Chevalier de Barbarin. This was founded at Lyons, and, although it had many partisans in France, prevailed principally in Sweden and Germany. Its principles remind us of the Platonic philosophy; its disciples maintained that the magnetic operation depended entirely upon a pure 'effort of the soul,' and was to be conducted only upon psychical principles. They were therefore termed spiritualists. Lastly, the school of the Marquis de Puységur, founded at Strasburg, the disciples of which, professing to be guided only by observation, called themselves experimentalists. The characteristic feature of this school is, that it combines the physical treatment of the school of Mesmer with the psychical treatment of that of Barbarin." 18.

It cannot be otherwise than creditable to the general stock of common sense in France, that the belief in animal magnetism spread with rapidity. Shoals of young women were brought "en rapport," and not a few old ones were converted. Members of the Chamber of Deputies opened their saloons, the proselytes grew clamorous, the public expectant, and the Academy was urged to reconsider its ancient verdict. One of the members proposed that a new special commission should be appointed, for the reconsideration of the subject. It is instructive to observe the contest of ancient prejudice and infant truth—of the old bigotry and the young enthusiasm of the Academy.

"This," says M. Dupotet, "was a perplexing proposition: the Academy knew not which side to take. It was composed of many members who were convinced of the truth of animal magnetism, and many who were undecided, and desirous of receiving further information. The older members were unwilling that the magnetisers should derive any importance from their decision: they were even apprehensive that the bare nomination of a committee of inquiry would lead to an impression that they were favourably disposed towards the doctrine, and several were naturally enough disinclined to disturb, much less to rescind the de-

cision against it contained in the old report. But the case was urgent; they therefore adopted an intermediate course. They appointed a committee, MM. Adelon, Burdin, Marc, Pariset, and Husson, to make a preliminary investigation, and report whether the Academy, without compromising itself, could appoint a new commission. This was surely proceeding with all due precaution,—and what was the result? The committee convinced itself that the evidence was sufficiently strong in favour of animal magnetism to warrant the Academy in authorising another official investigation; and on the 13th of December, 1825, some months after their appointment, the commissioners, faithful to their duty, presented themselves to deliver their report. There was on that day an excitement among the members in the council-room which did not terminate with the sitting. Three days were occupied by the debate, when at length the Academy decided, by a majority of ten, in favour of the appointment of new commission. Eleven members were therefore nominated—viz., Bourdois de la Motte (the President), Fouquier, Gueneau de Mussy, Guersent, Husson, Itard, Marc, J. J. Leroux, Thillay, Double, and Magendie." 23.

For five years the Commission were silent. Perhaps they were buried in a magnetic slumber. In this state of somnambulism, they saw; they felt, and were convinced. At the end of the five years devoted to the examination of this wonderful science, they announced that their report was ready, and, on the 20th of June, it was read by M. Husson at the bar of the Academy. The whole of the Report could not be read on the first day, and its conclusion was deferred until the next meeting. Let M. Dupotet describe the scene.

"This was the day of the grand battle;—I say, battle, for on this occasion there was a general affray among the members of the Academy. While the report was being read, they listened with uneasiness to the facts detailed; but when the higher phenomena of lucidity were described, a general murmur, not very flattering to the commissioners, prevailed, which gradually increased until several Academicians started from their seats, and apostrophised, in unmeasured terms of indignation and contumely, the men who had conscientiously related the facts which they had seen and attested. An outcry was raised on all sides against the commissioners; but without being disconcerted, many members of the Academy, who believed in magnetism because they had themselves examined it, vindicated them, and retorted:—‘You do not believe in magnetism—be it so; but in this very place the circulation of the blood was denied; yet the blood does circulate! Here they who practised inoculation were denounced as impostors, and the inoculated as dupes and idiots; yet was inoculation no imposition or idoitcy;—here, also, the physicians who first employed tartaremetic were put on their trial, and expelled the Academy; yet we have now for colleagues men who employ it in enormous doses!’ Another exclaimed, with stentorian voice, ‘This Institution ridiculed those who affirmed they had seen stones fall from the sky; yet meteoric stones do fall!’ Thus the sanctuary of science was on a sudden converted into an arena of Babel-like confusion, because a few of the learned members of the Academy were not prepared to accredit the facts which the commissioners, whom they had themselves delegated with the inquiry, reported to them. But it was necessary to terminate so turbulent a discussion; and then came the question whether the report should be published or not, which, after another stormy contention, was decided in the negative." 26.

We blush for the Academy. Its Commissioners had been magnetised and the witnesses of magnetism for full five years—they had seen phenomena which no one can believe without seeing, and which some will not believe

when they do see them—they had yielded their assent to the greatest apparent absurdities, and consented to seem to verify the adage, that, "doubtless the pleasure is as great of being cheated, as to cheat"—and the reward they received from the whole Academy was the rejection of their elaborate report—a rejection which virtually said, "Gentlemen of the Commission, though you have been at the pains to write yourselves down asses, we of the Academy don't intend to follow your example." The denunciation of antinomy was not half so bad as this, and a Piron of these days would re-write his epitaph:

Ci git Piron, qui ne fut rien ;
Pas même Academicien.

But the folly of the Academy was not at its height. Not content with thus stultifying itself in its old commission, it has subsequently appointed a second. M. Dupotet charitably avoids a full account of the operations of this second batch of Commissioners. The first decided in favour of animal magnetism. As a lover of his science and convinced of its truth, M. Dupotet would have been infamous had he not dwelt on what was calculated to support it. But the second academical commission unfortunately has arrived at a counter conclusion, and has done Mesmerism the injustice of making it look like humbug. Surely it was not incumbent upon M. Dupotet to draw attention to this. He therefore concludes his history of magnetism with the favourable report of the first commission, and an offer to convince the whole world upon terms of the most moderate description.

We are almost tempted to imitate the plan of M. Dupotet, and to dismiss in silence the scandalous report of the second commission. But two considerations have determined us to insert it; because the triumph of magnetism will be greater, the stronger the apparent facts opposed to it: and because, it is only necessary to expose the ungentlemanly precautions of the Reporters against imposition or error, to induce all properly-constituted minds to form a decided opinion on the subject.

It seems, then, that the Commission was composed of MM. Bouillaud, Cloquet, Caventou, Cornac, Dubois (of Amiens), Emery, Oudet, Pelletier, and Roux. M. Roux was chosen President, and M. Dubois, Secretary and Reporter.

The whole of the Commission, except M. Oudet, met at the house of M. Roux, at 7 p. m. of the 3rd of March. At a quarter to 8, M. Berna introduced a young girl of 17 or 18, of a constitution apparently nervous and delicate, but with an air sufficiently unconcerned and resolute.

"The programme of the evening's experiments which we had sent to M. B., presented eight experiments. The following are their titles, literally copied, for the language does not belong to your Commissioners.

1st, Somnambulism.

2d, Proof (constatation) of insensibility to pricking and tickling.

3rd, Restitution, by the mental will, of the sensibility.

4th, Obedience to the mental order to lose motion.

5th, Obedience to the mental order, to cease answering in the midst of a conversation; and to the mental order to answer again.

6th, Repetition of the same experiment, the magnetizer being separated from the somnambulist by a door.

7th, Waking.

Sth, According to the mental order which shall be enjoined in the somnambulic state, persistence in the restoration of the sensibility, and also persistence of the power of losing or recovering this sensibility at the will of the magnetizer.

The young girl introduced to your Commissioners was received with caution and affability: we conversed with her on indifferent things, and then, to determine, before any attempt at magnetization, how far she was in her ordinary state sensible to pricking, needles of moderate size, brought by M. Berna himself, were stuck in to the depth of about half a line. Their points were made to penetrate into the hands and neck of this young person, and then, when asked by some of the Commissioners, with an air of doubt, if she felt the pricking, she answered positively to M. Roux and M. Caventou, that she felt nothing; her figure, moreover, did not express any pain. Let us remind the Academy, that she was at present perfectly and normally awake, by the confession even of her magnetizer, who had not yet commenced any of his *manœuvres*. This scarcely agreed with the programme, for the insensibility ought not to have been acquired till in the state of somnambulism, or after and by the mental injunction of the magnetizer,—an injunction which could not be given except in this state.

Your Commissioners were a little surprised at this singular commencement. What! do you feel nothing? they said to her. But are you absolutely insensible?—Then she finished by confessing that she felt a very little pain.

These preliminaries completed, M. Berna made her sit close by him. *Tête à tête* with her, he appeared at first to contemplate her in silence, without practising any of the movements called *passes*; after a minute or two, he said to your Commissioners, that the subject was in somnambulism.

The girl's eyes were covered with cotton and a bandage.

M. Berna had no other proofs, to give your Commissioners of the pretended state of somnambulism. which, besides, he did not define theoretically, than the experiments comprised in his programme. Then, having again contemplated his somnambule at a very slight distance, he announced that she was struck with general insensibility.

What now could be the part your Commissioners should perform? Physicians, surgeons, natural philosophers, all knew that the proofs of the abolition of sensibility are of two kinds; that the one are deduced from the assertions of the subjects—the others from the signs of the external deportment—the language of action. Now the first might be considered as null, when concerned with individuals whose interest is to deceive and lead into error. The mute signs drawn out by pain remained; but then, on the one hand the intensity of the pain, and on the other the firmness of the patients, had to be taken into consideration. In the present case the intensity of the pain was not to pass certain limits rigorously fixed by M. Berna.

However, some of your Commissioners, armed with needles, among others MM. Bouillaud, Emery and Dubois, set them to prick the poor girl. By word she complained of no pain: her features, as far as we could judge, expressed no painful sensation;—we say as far as we could judge, for her eyes being covered with a large bandage, half her features were concealed from us,—we had scarcely any thing left to observe but the forehead, the mouth, and the chin.

M. Bouillaud, in his trials, did not go beyond the agreed limits; but the reporter, having stuck the point of his needle under the chin with more force, the somnambule made at the moment, and with vivacity, a movement of deglutition. M. Berna perceived it, and gave new cautions.

Touched with the end of the finger by M. Cloquet in the surface of the hand, the somnambule said she felt this impression; so that independently of the perception of temperatures, she had still preserved that of touches,—which, in the system of M. Berna, would add new restrictions to this pretended general loss of sensibility. However, the magnetizer, pursuing the course of his experiments, told the Commissioners that he was going, by the sole and tacit intervention of his will, to paralyse, either from sensibility or motion, any part of the girl's body that they would wish. The following conditions were then made:—

That M. Berna should maintain the most perfect silence, and should receive from the hands of the Commissioners, papers, on which should be written the parts to be deprived of or endowed with either sensibility or motion; and that he should let them know by closing one of his eyes that it had been done, and that they might verify it. He said he could not accept these conditions, and gave for reason, that the parts pointed out by the Commissioners were too limited, and that besides all this was out of his programme, and he did not understand thus the precautions that would be taken against him.

Your Commissioners had written—1st, to deprive the chin of sensibility; 2nd, the right thumb; 3d, the region of the left deltoid; 4th, that of the right patella. M. Berna had written in his programme, that to show us the sufficiency of his action, he would raise his hand towards us, and that this should be the sign in this experiment as in all the others. This was one of the precautions he had planned; but as your Commissioners took good care to look to all these points, they thought they might require of M. Berna, that instead of raising his hand for a signal, he should be content with closing one of his eyes.

As to limits, M. Berna had pointed them out in his programme. For sensibility—1st, the whole of the body; 2d, a part of the body only. For motion, he had written—*a*, the two arms; *b*, the two legs; *c*, an arm and a leg; *d*, a particular arm and leg; *e*, the neck on the right or left side; *f*, the tongue. But here we must explain to the Academy what M. Berna understood by paralysis, and by the verification of this paralysis.

All the evidence the Commissioners were allowed to have of its existence, was, that when told to raise her arm, &c., the somnambule did raise it or not; in the latter case—that is, if when told to do it, she did not raise her limbs or move her head, or talk—she was to be considered as paralysed by the tacit will of M. Berna, and that all this depended on the agency of animal magnetism. Besides this, the Commissioners were to make haste with their observations. If the first trials did not succeed, they were to be repeated till paralysis was produced—very good plans for the public, but such as men of science, who were to give an account of their commission, could not exactly comply with. M. Berna then said he would do no more at this meeting, but would wake the somnambule, and at the same time restore her sensibility. M. Bouillaud, at his invitation, was first to place himself behind the girl, ready to prick the back of her neck when the magnetizer gave him the

signal. He, M. Berna, placed himself opposite the girl in the same position as the first time. Wake! said he, twice. Then he raised the bandage and the cotton from her eyes, leaned towards her again, put his left arm behind her, and stopped M. Bouillaud, who was of course going to prick her too soon; then leaning towards the girl again, whose eyes were perfectly open, he looks at M. Bouillaud; that Commissioner then pricked the somnambule, who turned her head aside, and M. Berna cried out—There, the sensibility restored! Your Commissioners make no reflection on the value of the facts which M. Berna had shewn them.”*

It must, we think, be admitted that the Commission was composed of very unreasonable persons. They ought not to have pricked the young lady before she was duly magnetised. Their doing so spoilt the experiment. Her insensibility, when magnetised, would have been a thousand times more satisfactory, if these officious Commissioners had not discovered her insensibility before she was magnetised at all.

The Commissioners seem puzzled for means of determining the reality of the magnetic somnambulism. But who, we would ask, can be better judges of it, than the magnetisers who induce, and the patients who feel it? They must know what somnambulism is, much better than a host of mere physicians, surgeons, and natural philosophers. If magnetiser and patient then concur in the somnambulism of the latter, it is exceedingly uncivil, not to say absurd, in any one to doubt it. The superiority of assertion to all ordinary evidence is clear, indeed, in the present case. For, when the Commissioners attempted to corroborate M. Berna's declaration, by sticking pins into the somnambule, either she displayed no more insensibility than she had done before the induction of somnambulism, or, when an unlucky pin was poked too far, a vivacious movement of deglutition occurred at the most inopportune moment. If M. Cloquet, too, had refrained from touching the patient's hand with his finger, we should not have been annoyed with the perplexing fact of the somnambule's having said that she felt it.

M. Berna was perfectly right in refusing to do what was out of his programme. There is a regular way of transacting business in animal magnetism, as in other concerns; and a person who had been accustomed to move her arms and toes in a certain order, had no right to expect that the routine should be interrupted. We are all aware of the force of habit. The somnambule had probably performed her part on numerous occasions. If let alone, everything would have gone on satisfactorily. Her legs and arms would have gone up or down at the proper time and place, and she would have balanced herself on her nose or her rump, in a fashion that would make a Mahometan dervise die of pure envy, and would have gone very far towards convincing half the old women of Paris, in petticoats or out of them.

M. Berna did well to bring the exhibition to a close. We will now detail from the same report the proceedings of a second sitting.

“At half-past eight in the evening the same somnambule and all the Commissioners being assembled, and the somnambulism having been produced, M.

* This Translation of the Report of the Commission is copied from the Medical Gazette. It is impossible to curtail it with advantage.

Bouillaud requested in writing that M. Berna would have the goodness to paralyse the right arm only of the girl, and when it was done to indicate it to him by closing his eyes. M. Berna, then sitting near the girl, lowered his head towards her hands, which she held in her lap. The reporter, led by what M. Berna had said, viz. that there should be no contact either immediate or mediate between him and the somnambule, interposed a sheet of paper between his face and her hands.

Presently M. B. made the agreed sign, that his silent will had been sufficiently powerful to paralyse the right arm only of his somnambule. M. Bouillaud proceeded to verify the fact, and for this purpose asked the girl to move successively this or that limb; when he came to the right leg, by way of elimination, as one may say, she answered that she could not move either the right leg or the right arm.

Remember that M. Berna's programme stated that he had the power of paralyzing either a single limb, or two limbs at once; we chose a single limb, and there resulted by his own confession, spite of his will, what he called a paralysis of two limbs. The experiment missed, and it was necessary to pass to another; for we had not the politeness, notwithstanding the terms of the programme, to re-commence till it succeeded, which certainly must have been soon, since we had only to chose between four limbs and the tongue." 920.

It must be confessed that the Commission reason plausibly, and, under ordinary circumstances, their decision would be laudable. But, perhaps, the common rules of evidence should be dispensed with in so uncommon a case as that of magnetism. As that is opposed to common-sense, it seems hardly fair to try it by common-sense procedures. This is making the defendant judge. For our own parts, we are convinced that no man of common-sense ought to trouble himself much about Mesmerism, and few, we are pleased to notice, do. The science is of two high an order for individuals possessed of this homely character of mind.

If "half a loaf is better than no bread," it seems to us that *a fortiori* two loaves are better than one. We are almost tempted to assert that Mesmerism is something plus the truth. When the magnetizer signified by a wink that he had paralysed the girl's right arm, and it turned out that her right leg was paralysed too, surely that was the strongest evidence of the powers of animal magnetism. It did twice as much as was expected. Can that be said of many sciences? Let us pass to the third sitting.

"On the 13th of March, at half-past seven in the evening, another meeting was held, and the same proceedings were gone through. 'Remove from your somnambule,' wrote M. Bouillaud on a piece of paper, 'remove the power of hearing me, while you stand behind M. Dubois, and then touching his shoulder, let me know that it is done.'

The magnetiser agreed, but wished that the somnambule should be placed very near M. Dubois, who was to act as a screen, and that she should be a foot off him. This was punctually done; the reporter (M. Dubois) made M. Berna go behind him, and hid from him, at least in part, the somnambule while M. Bouillaud conversed with her in the situation just mentioned; but long before the magnetiser had made the agreed sign, she seemed no longer to hear M. Bouillaud, which shewed that the magnetizer's will had acted quicker than he thought; but when the signal was given, then she begins to answer M. Bouillaud, which was precisely the contrary of what ought to have happened."

"But as the magnetizer had from the first moment of his transactions with us spoken of these marvellous facts of vision without the assistance of eyes, and of those famous transpositions of senses, so much talked of in the archives of animal magnetism, you may imagine how desirous we were of seeing such ex-

periments; never had any thing like it been tried before an academic commission." 920.

Never had such an issue been tried before any commission, save such as the audience of some peripatetic Katerfelto may be deemed. The results were worthy of the actors and the science.

"On the 3d, your Commissioners met again, and witnessed the following facts:—At eight in the evening we met at M. Berna's. He was placed by the side of a woman aged about 30. After our arrival, he covered her eyes with a band, and then told us that she was in a state of somnambulism, and began to talk aloud with her.

Interrogated by her magnetizer (for none of us spoke at this meeting)—interrogated if she saw what was passing around her, this woman declared, that to distinguish objects better, she must turn so as to face him. M. Berna approached her, so that their legs touched, notwithstanding what was said in the programme; but still a blow, this was secondary for facts of vision, without the assistance of eyes.

Your Commissioners, attentive to what was passing, were however, penetrated with this idea, that in this sitting there would be two kinds of facts—1st, Those whose solution was proposed to the woman said to be in somnambulism, but which were known to M. Berna. 2d, Facts whose solution was also proposed to her, but which were unknown to M. Berna, and which would be in part arranged without his knowledge. The latter would have a great value, an absolute value, independent of localities and the morality of the actors, and ought to carry conviction with them. The others would remain subject to various interpretations—to objections more or less founded, and therefore might leave doubt in the mind. Thus, to cite a first instance, the magnetizer commenced by asking the woman how many persons there were present? Several gentlemen, she answered; at least five. This first fact was as well known to M. Berna as to us; and we may add that, approximatively, she herself might know it, since her eyes were not covered till after our arrival.

At the invitation of the magnetizer, who directed every thing in this solemn sitting, the reporter was to write on a card one or several words, that the somnambule might read them. The Commissioners, thanks to the officious care of M. Berna, had at their disposal, on a table, two packs of cards, one perfectly plain, the others playing cards. Thus you see the order of the sitting had been obligingly regulated by the magnetizer; there were no more of those hesitations and those uncertainties which had in some measure disturbed the other sittings; here every thing was arranged beforehand." 921.

Nothing could be more civil on M. Berna's part, nor, indeed, could any thing be more judicious. It is obvious how much more satisfactory it must be for things to run in a groove. When things turn up the reverse of what was looked for, men's minds are unsettled, and no beneficial conclusions can be formed. If, for example, M. Berna's patient had been blind-folded before the Commission entered, it is possible that she might have blundered in reference to their numbers. Her stupidity would have prejudiced magnetism. M. Berna would have been inexcusable to have omitted any precautions against so injurious an accident. But to proceed.

"However, the reporter wrote on a blank card the word PANTAGRUEL, in printed and perfectly distinct letters; then placing himself behind the somnambule, he presented the card close to her occiput. The magnetizer, seated opposite M. Dubois—that is, in front of the woman—could not see the characters traced on the card; it was a fact of the second order, mentioned above, that is, decisive in itself.

The somnambule, interrogated only by her magnetizer as to what was put behind her head, answered, after some hesitation, that it was something white—something resembling a card—a visiting card. Hitherto, as you may believe, there was nothing to surprise us. M. Berna had said aloud to the reporter to take a card, and write something on it. The somnambule might therefore say she saw something white, like a card; but as soon as she was asked if she could distinguish what there was on this card—‘Yes,’ answered she firmly, ‘there is writing on it:’ an answer which again did not surprise us. ‘Is it small or large, this writing?’ ‘Pretty large,’ she replied. Here, as you see, the serious difficulties commenced, and the somnambule resorted to approximations. ‘What is written on it?’ continued the magnetizer. ‘Wait, I cannot see plain. Ah! there is first—an M,—yes, tis a word beginning with an M.’ Such were the first answers of the somnambule.

M. Cornac, unknown to the magnetizer, who alone put questions to the somnambule, then passed a perfectly blank card to M. Dubois, who immediately, and unknown to M. Berna, substituted it for the one which had the word *Pantagruel* on it. The somnambule still persisted in saying that she saw a word beginning with M.—M. Berna, who did not suspect in any way our contrivance, still pressed her with questions; she was invariable; she could only, she said, distinguish a single letter, an M. At last, after some efforts, she added, with some doubt, that she saw two lines of writing.

MM. Oudet and Cornac were then placed behind her; she said she could see one of these gentlemen, M. Cornac. She was asked if he was large? Not very, said she—not so large as you. She was speaking to M. Berna, who alone conversed with her.

M. Cornac, with the consent of the magnetizer, presented in his turn a card to the occiput of the subject, on which he had written the word *Aimé*. She distinguished, she said, some writing, but could not say what it was, what it signified. M. Cornac drew a long purse from his pocket. It is something round, she said: then putting his purse in his pocket again, he presented his hand alone. She said she still saw something round.” 921.

We confess we feel a difficulty in explaining these circumstances. We cannot understand why this young woman could not read with her occiput. That animal magnetism would enable her to read with her toe-nail, no candid nor reasonable man can doubt. The thing is itself a charming as well as a likely fact, and besides the magnetizers and the magnetized both say that it is so. They must know best, that is certain. Away with the cold scepticism that answers “impossible.” The word is not only not French, it is of no language in these glorious days of homœopathy and Mesmerism.

It would, no doubt, have tended to prevent the occurrence of these distressing mistakes, if M. Berna had been made acquainted before-hand, with all that was proposed to be done. We would suggest to all future Commissions to act in a free and gentlemanly manner, and afforded the magnetizer and the patient every possible facility. Let us not witness the Vandalism of men of learning throwing obstacles in the way of science.

“After these first attempts, the somnambule complained of being dazzled; that she was annoyed by light. Yes answered the magnetizer, by fogs, wait—and by means of some fresh passes, he said he had relieved her.” 921.

How wonderful a thing magnetism is. Here was a young woman, who had been for some time blind-folded, reading wrong with her occiput, and when she could not see such an object as a purse, she complained that she had all along been dazzled with the light. This, no doubt, was the cause of

her blindness. But the curious thing is that, after all, she was not dazzled by light, but fogs. M. Berna, at all events, said so, and M. Berna must have known. Having driven away these dazzling fogs, by his passes, the patient was prepared by M. Berna for any thing. We shall see how she got on.

"The reporter charged with taking notes, was writing at this moment within two steps of the somnambule: the point of the pen was heard running along the paper; the somnambule turned aside and raised her head, as if endeavouring to see under the lower edge of her bandage. The magnetizer quickly asked if she saw that gentleman. Yes, she said, he is holding something white and long (the reporter was writing on a paper longer than broad.) He then approached the somnambule, placed himself behind her, and ceasing to write, put his pen in his mouth. M. Berna then interrogated his subject in the same manner, that is on facts of which he had knowledge as well as we. Do you still see, he said, that gentleman behind you? Yes, said she. Do you see his mouth? Not very well. Why? There is something white and long across it. The magnetiser cast a look of satisfaction towards us, and recommended the reporter to make special note of this fact.

We have taken care not to forget it; but what is its value or importance in relation to the doctrine of animal magnetism? On the one hand, the somnambule knew that she had turned towards some one writing; the distinct noise of the pen on the paper was enough to make this certain, even admitting that she had not seen under her bandage, a trial which she made without opposition on our part; because, as we have already said, we wished to let the magnetizer act without the least appearance of constraint. The reporter still writing, placed himself behind the woman, and then only ceased to write, and put his pen between his teeth. The magnetizer did not take another commissioner for the subject of his questions; but addressed to the somnambule, assuredly without wishing it, a question too indicative—too particular. Do you see that gentleman? Well: but why say—Do you see his mouth? What is there in his mouth? the somnambule might at once ask herself. He has been writing—he has placed himself behind me while writing—can it be his pen that he has put in his mouth?—it is something white and long.

These reflections came at once into our minds, and removed from this fact the value which it might perhaps have had without these circumstances." 922.

The Commission betray throughout these observations, that desire to discover easy and natural explanations for seemingly mysterious facts, so contrary to true science. Why elaborately account for the patient's declaring that the Reporter had something white in his mouth, when the fact that she saw it all with her occiput is so evident?

"In the facts which are about to be presented to you, things could not go on in this manner; varied interpretations were not possible: let us see what was the result.

On a fresh invitation of the magnetizer, M. Dubois wrote in large letters on a card of the same size as the first, a single word—*MISERE*, without letting the magnetiser know what it was, and presented it for the somnambule to make out, placed as usual at her occiput. M. Berna's request had been made aloud; the somnambule did not fail to say, without hesitation, that she saw a card, and that there was writing on it. Solicited as before, she seemed to make efforts to distinguish the letters; at last, after great hesitation, she said the word began with a T. The reporter substituted a blank card, and presented it; but neither the somnambule nor the magnetizer could in any way perceive the substitution. Interrogated as to the number of letters, she said she saw five or four. We have said the card was perfectly blank

Now, gentlemen, we are coming to facts more decisive, more curious, and in which the lucidity of the somnambule was to appear in full evidence. We have already said that M. Berna had prepared on one of the tables in his apartment a pack of playing cards. This time, again addressing the reporter, he asked him aloud, and without leaving his intimate relation with the somnambule, to take a playing card, and place it at her occiput. Is it to be a court card? asked the reporter. As you please, answered M. Berna.

This perfectly natural question the reporter had made at first without reflection, quite innocently; but as he went towards the table on which the pack of playing cards had been previously laid out, the idea struck him not to take either a court or a common card, but while pretending to take a playing card, to take instead, a perfectly blank one of the same size, still unknown to M. Berna, and we need not add, to the somnambule, since she could not perceive substitutions made an inch from her occiput, to which her vision had been transposed.

Then, with the blank card, the reporter placed himself at her occiput, and held it behind her. The magnetizer, seated before her, magnetized with all his force. The somnambule is interrogated,—hesitated,—made efforts and said she saw a card: but the magnetizer was not, any more than we, contented with so little. He asked her what she remarked on the card? She hesitated, and then said there was black and red!

The Commission let M. Berna continue his manœuvres and his solicitations, that he might clear what still appeared very confused, before the woman's transposed-sense, and which as yet consisted only of a little black and red. After some fruitless essays, the magnetizer, undoubtedly but ill satisfied with the functions of the transposed visual sense, invites the reporter to pass his card before the head of the somnambule, close to the band covering her eyes: this was, it may be said, changing the terms of the question, and even of the magnetic doctrine; it was giving up the transposition of the senses, to substitute *clairvoyance* through a bandage. But it mattered little: the reporter passed the card as the magnetizer wished, but he took care to pass it quickly, and so that M. Berna might suppose he saw only the naturally white back of the card, while the coloured part was turned towards the somnambule's bandage.

The card once in this new position, the magnetizer continued his manœuvres, and solicited the somnambule. She confessed that she saw the card better: then added, hesitating, that she saw a figure. New urging from M. Berna,—new solicitations! The somnambule, on her part, seemed making great efforts. After some trials, she declared plainly that she saw a knave!! But this was not all: it remained to say what knave, for there are four. Proceeding, without doubt, by way of elimination, she answered her magnetizer that there was black by the side of the knave. Still this was not all: there are two knaves with black at their sides. New urging by the magnetizer,—new efforts by the somnambule,—new and profound attention by the Commissioners. At last, she has it.—It is the knave of clubs!

M. Berna, thinking the experiment finished, took the card from the reporter's hands, and in presence of all the Commissioners, sees and assures himself that it is entirely blank." 923.

This is unaccountable. As M. Berna was before the girl, we cannot help thinking that she was right in protesting that she saw a knave. There was clairvoyance, we conceive, in that, and, when properly considered, strong evidence of the truth of Mesmerism.

"As a last operation, leaving both the writing and the playing cards, M. Berna asked M. Cornac for an object he had brought with him, adding, that he would present it in his closed hand before the somnambule's bandage. This object, which we do not mention the name of yet, was given by M. Cornac to M. Berna, and he, with one hand, presented it close to the somnambule's bandage."

dage, and with the other endeavoured to act magnetically on her, and then recommenced the inquiries, solicitations urgings, &c. She, who had not lost courage, appeared to make great exertions. Her magnetizer asked her if she could distinguish what he had in his hand. Wait! said she. Then, after these feigned or real uncertainties, she said it was something round: then, still pressed with questions, she added, that it was flesh-coloured,—that it was yellow,—and lastly, that it was of the colour of gold. At new and incessant questions, she added, that it was about as thick as an onion,—that it was yellow on one side white on the other, and that, lastly, there was black above it.

Here she complained, and wished, she said, that her magnetizer would finish and wake her: she urgently asked it. Not yet, answered M. Berna,—when you have answered my questions; and then he agitated his hands before her, to drive away obscurities and fogs. Pressed anew to tell the name of the object presented to her, she repeated that it was yellow and white. Do you say it was white? asked M. Berna. (Here the Commission incidently remarked, that M. Berna was perhaps wrong in recalling only the word white: there was in this, as you will presently see, something too indicative—too special.) But the somnambule said positively yellow on one side, white on the other, with black above. Have you, said M. Berna, such an object? No, said she. Have I? Ah! yes, you have that. But, rejoined he, if you had it, what would you do with it? I would put it on my neck. Solicited, for the last time, to explain herself better,—to say at least the use of the object, if she could not tell the name,—she seemed to collect all her powers, and then uttered only the word *hour*; then at last, as if suddenly illuminated, she cried out, it was to see the hour. M. Berna returned M. Cornac the mysterious object: it was a silver medal, of the weight and size of a piece worth three francs; on one of its surfaces there was a caduceus, on the other two capital letters." 923.

We will do M. Berna the justice to say that he did his best throughout, to acquaint his patient with what was going on, and, no doubt, had fortune been on his side, he had drilled her so scientifically, that all would have gone well. This laudable love of truth and science was not so successful as could have been desired.

Perhaps it is not necessary to subjoin the conclusions at which the Commission arrived, and which it specified in the Report to the Academy. The experiments speak for themselves. But we are tempted to quote some of the observations of the Commission, because they communicate particulars imperfectly understood from the details of the experiments only.

a. "According to the terms of the programme, the second experiment was to consist in the proof of the insensibility of the subjects. But after having mentioned the restrictions imposed on your Commission—that the face was put out of sight and removed from every trial of this kind—that it was the same for all the parts naturally covered, so that there remained only the hands and neck;—after having reminded you that on these parts we were permitted to exercise neither pinching nor scratching, nor the contact of any body, either on fire or of a slightly raised temperature, but were limited to the sticking in of needles to half a line deep;—after recalling all these restrictions, we are justified in deducing from these facts—1st, that none but very slightly painful sensations could be excited; 2d, that these could be produced only on parts perhaps habituated to this kind of impression; 3d, that this kind of impression was always the same, and that it resulted from a kind of *tatonage*; 4th, that the features, and especially the eyes, where painful impressions are more especially indicated, were hidden; 5th, that in consequence of these circumstances, an *impassibilité*, even complete and absolute, could not be a conclusive proof to us of the abolition of sensation in the subject in question." 955.

The objections to the proofs of insensibility adduced by the magnetizers, are specious and plausible. But, since it is certain that the patients *are* insensible, it would be cruel to burn and torture them for nothing. The magnetizers, then, do right, to prescribe such gentle injuries as habit, independently of magnetism, could render tolerable, and such as can do no real mischief.*

b. The Commission dwells at length on the absence of satisfactory proof of insensibility and paralysis on the part of the magnetised. The assertions of the parties concerned are the main, indeed the only evidence. But those parties must know best, and it is not handsome to suspect them of delusion or falsehood. If appearances are against them, as in M. Berna's experiments, appearances are proverbially deceitful; and, though they do not seem so, M. Berna may still be a sensible and candid man, and his patients very honest and decent young women. In weighing evidence we ought to lean to the side of implicit faith. It is to be lamented that the Commission has done just the reverse. Being the actual spectators of the circumstances, truth would naturally make a strong immediate impression on the commissioners, and much importance would, of course, have been attributed to an expression of conviction from such a quarter. But as that conviction has been counter to their claims, the magnetizers have acted properly in attaching no importance to it. How could they feel any thing but pity and contempt for such conclusions as the following?

"Despairing of proving the transposition of the sense of sight—the utility and superfluity of the eyes in the magnetic state, the magnetizer wished at least to take refuge in the fact of *clairvoyance*, or vision through opaque bodies.

You know the experiments made on this subject; they present the capital conclusion, that a man placed before a woman cannot give her the power of seeing through a bandage. But here a more serious reflection presents itself: admitting for a moment the hypothesis (which is very convenient for the magnetizers), that in many circumstances the best somnambules lose their lucidity, and, like common mortals, can no longer see with the occiput or the stomach, or even through a bandage, what are we to conclude of this woman from the minute description which she gave of other objects than those presented to her? who described a knave of clubs on a perfectly blank card—who, in an Academic medal, saw a gold watch, with a white face and black letters—and who, if urged, would perhaps have finished by telling the hour that this watch marked?" 956.

We had hoped, for the honour of animal magnetism, that the Commission was composed of men opposed, *à priori*, to the science—of men of the stamp of the bigots, who, alas! form the bulk of the profession. Had that been so, the uncivil experiments, and the unfavourable conclusions would have been at once explained. Unfortunately it is not so. The Commission itself, sensible, we hope of the decided impression that its report would cause, takes care to rebut the accusation.

"Arriving at our own Commission, we must first remind you that you had

* The capability of enduring pain conferred by the stimulus of imposture or enthusiasm, may be easily seen in our army or navy, in the dervishes of Mahometan countries, and in the beggars of all. Far be it from us to apply these facts to the explanation of the sang-froid of the magnetized, under the prick of a pin. Such an explanation would be unworthy of the subject.

composed it of the representatives of contrary opinions on the question, and of members occupied in various particular scientific pursuits. You sent both classes to the facts, because, on the one hand, whatever were their previous convictions you had confidence in their good faith; and, on the other, by reason of the variety of their scientific tendencies, you thought they would examine the facts in all their aspects.

"Gentlemen, we may at once tell you, this precaution has had in some degree its reward. With our various ideas for and against, no difference, as you will see, has arisen among us on the facts of which we have been witnesses; with our varied propensities to consider facts in particular aspects, we have been unanimous in each of our conclusions. You will find, perhaps, in this a new warrant of their truth; for it was necessary that the facts submitted to our examination should have very strong positive or negative evidence, to induce every time a constant unanimity among Commissioners always at issue on the theoretic value of animal magnetism." 951.

All sincere friends to Mesmerism must deplore the institution of this Commission. Its labours and its conclusions shew conclusively how the greatest truths may wear the semblance of the grossest falsehoods. That Mesmerism is a great truth is unquestionable. Yet observation and induction, the two great roads, it is believed, to real knowledge, *seem* directly opposed to it. Now, as Mesmerism is certainly right, it follows, as a logical consequence, that observation and induction are wrong. It seems impossible that both can be true. Who can hesitate which to believe?

We leave these exhibitions of human weakness and of human obstinacy, and turn to the grateful task of gently examining the principles, and glancing at the details of this science, more mysterious and sublime than any other, saving, perhaps, astrology.

The first wish that naturally occurs to the mind of an inquisitive person, is to learn the mode in which effects so wonderful as those of animal magnetism are obtained. He hears that the laws of nature are reversed—that the mere caprice of one individual arrests sensation and voluntary motion in another—that at the mental bidding of A the brain of B shall cease to think, to feel, to will—that the same B acquires a power, supposed to be denied since the age of miracles, of foreseeing future events—that the elaborate apparatus of vision, that exquisite contrivance, becomes altogether unnecessary, and B can see with the hair of her occiput, or read through her clothes, stays, busk, and all, with her epigastrium, or her navel. He is told that the laws of Nature and of God are set aside, and he trembles to think that the arguments for God's existence, drawn from contrivance and design, are bootless, because the same effects are now obtained without that mechanism by which contrivance and design were proved. His astonishment at this, perhaps his dismay, will be heightened when he finds by what simple means these great results have been obtained, when he perceives that he has only to turn his face one way, and to put his thumb another, to revolutionise Nature. This is another proof of the simplicity of the scheme of Providence, and our only wonder is, that since it is so easy to see without eyes, and to ascertain future events, so much trouble should have been taken in the manufacture of the former, and people should experience such unaccountable difficulty in determining the latter with precision. Mr. Murphy must be magnetised before he publishes his next year's almanack.

We have said that the means and the mode of developing the phenomena

of magnetism are simple. The facility with which they are excited is singular.

Mesmer, who must be admitted to have produced the most marvellous effects, thus describes, in a series of questions and answers, the manipulations which he found to answer the purpose.

“Q.—How are the effects of the animal fluid demonstrated ?

“A.—When a healthy person is brought into immediate contact with a sick person, in whom one or more functions are disordered, the latter feels, in the morbid parts, sensations more or less acute.

Q.—How must a patient be touched to make him feel the effects of magnetism ?

A.—You must place yourself opposite to him, with your back turned towards the north, and draw your own close against his feet; you must then place, without pressure, both your thumbs on the plexus of the nerves in the epigastrium, and stretch your fingers towards the hypochondria. It is beneficial occasionally to move your fingers on the sides, and especially in the region of the spleen. After having continued this exercise for about a quarter of an hour, you should change your mode of operating, according to the state of the patient.

Q.—What ought to be done before we cease magnetising ?

A.—You must endeavour to put the magnetic fluid in equilibrium in every part of the body. This may be done by presenting the index finger of the right hand at the summit of the head on the left side, and then drawing it down the face to the breast and over the lower extremities. In this manœuvre an iron rod may be used instead of the finger.” 140.

The directions are precise, the fingering,” to use a musical term, easy, the consequences great. How often must honest folks have magnetised one another, without knowing it. Many a physician and surgeon must have had his back turned to the North, and, while kneading some abdominal tumor, done all, or more than all, that Mesmer directs; unconscious all the time of the somnambulism and the convulsions, the prophecies and the visions, he was stirring up. There cannot be a more striking proof of the blindness of medical men, in general, than their universal ignorance of the fact disclosed by Mesmer, that, when a healthy person is brought into contact with a sick, the latter feels sensation in his peccant part. From the days of Hippocrates to these, no medical author has mentioned that. Yet what an important agent it must be in diagnosis. If the mistress is sick, all we have to do is to order up the cook, bring them into immediate contact, and discover madam’s weak points at once.

But even magnetism did not start into existence like Minerva, perfect and mature. The Marquis de Puységur dispensed with some manœuvres, and introduced others. The Marquis was a generous man. His fingers were moved only for the good of humanity. Like kind old Isaac Walton, who directs us, when putting a live frog upon the hook, to “treat him tenderly as we would a brother,” the Marquis teaches us to magnetise ever philanthropically.

“You are,” quoth the Marquis, “to consider yourself as a magnet; your arms, and particularly your hands, being its poles; and, when you touch a patient by laying one of your hands on his back and the other in direct opposition upon his stomach, you are to imagine that the magnetic fluid has a tendency to circulate from one hand to the other through the body of the patient. You may vary this position by placing one hand upon the head and the other

upon the stomach, still with the same intention, the same desire of doing good. The circulation from one hand to the other will continue, the head and stomach being the parts of the body where the greatest number of nerves converge, these are, therefore, the two centres to which your action ought to be mostly directed. Friction is quite unnecessary; it is sufficient to touch with great attention, endeavouring to produce an increase of heat in the palms of the hands, &c. All the magnetic effects are more or less beneficial: one of the most satisfactory is somnambulism, but it is not the most frequent, and some patients may be perfectly cured without entering into this particular state. We shall not always be intent upon producing somnambulism, for the desire of obtaining any particular result is frequently the cause of no effect whatever being produced. No magnetiser should blindly reply upon nature for the proper regulation and control of the effects which he expects will result from his magnetic operation."

M. de Puységur further adds, "If, when magnetising a patient, you perceive that he experiences a certain numbness, or slight spasm, attended with nervous shocks; and should you then observe that he closes his eyes, you must rub them lightly with your thumbs to prevent the convulsive winking of the eyelids. You will know that your patient is in the magnetic sleep when you see him sensible to your action when you hold your thumb opposite to the plexus. A patient, in his crisis, should answer no one but his magnetiser, and allow nobody else to touch him."

The somnambulant state requires the greatest caution. Man in the magnetic state is to be considered as the most interesting being in existence. With regard to his magnetiser, it is through his unbounded confidence in you that you have been enabled to bring him completely under your control. It is, therefore, for no other purpose but that of benefiting him, that you have any right to exert your power. Attempting to deceive him, or abuse his confidence, while in this state, is to commit a dishonest action, having a tendency contrary to his benefit." 144

How beautiful is the idea of placing one hand on a man's head and another on his stomach from pure benevolence. We suppose it is the contrary motive, rather than the blow, which makes what is technically called "a double up," so distressing. We quite agree with the Marquis, that "man in the magnetic state is the most interesting being in existence." The next most interesting creature is the magnetiser. Can any more touching exhibition be imagined, than a friend of humanity, with one hand on the occiput and another on the stomach of a fellow-creature, setting him asleep or throwing him into convulsions from the mere exuberance of his philanthropy. Perhaps the magnetiser, like the knife-grinder's friend, prefers this philosophical charity to the coarse and vulgar sympathy of common minds, and, if asked for a substitute for his magnetic benefits in the shape of some small coin, would reply:—

"I give thee sixpence, I would see thee damn'd first!
Sordid, unfeeling, reprobate, degraded,
Spiritless outcast!"

But the Marquis was not doomed to stop here. The progress of genuine discovery is slow. We have seen the virtues of putting one hand on a person's head, and applying the other to his stomach. Accident, the parent of so many inventions, stood god-father to one of the Marquis de Puységur's. According to this—

"Usual habit of an afternoon,"

"I was magnetising," says he, "a young man by laying one of my hands on his head, and the other on his stomach. After a quarter of an hour's attention and concentration on my part, and perfect tranquility on his, he told me that he felt nothing. As he had no complaint, this appeared to me quite natural. I however again pressed him between both my hands, merely to try whether I would be more successful; but he felt no more this second time than he had the first. I was at length about to leave him, when, on slowly removing my hand from his stomach, he fetched a sigh, and complained that I was hurting him. As I did not then touch him, I could not at first believe it; but he hastily took my hand and lowered it, saying that it stopped his breath. I quickly brought myself into contact with him, expecting that he would now feel a more decided sensation, but it proved quite the contrary; the pressure of my hand had no effect whatever. On removing it to a distance of about one foot from him, he again complained; at two feet distance, he felt a weight on his breast, and desired me to withdraw. I then drew myself back by degrees, and stopped only when he told me his pain was gone and he felt nothing. I was then five paces from him; I magnetised him at that distance by a slow and circular oscillation of my hand; and immediately his head reclined on his shoulder, and somnambulism supervened." 143.

The consequence of this remarkable fact was, that M. de Puységur ever after magnetised at a distance. In his last memoir, he asserts that a great number of facts left no doubt on his mind of the superior advantage of this new mode of operating. We speak with submission, not being just now en rapport, but we think that the Marquis was right. We feel confident that, whether he stood near or at a distance, whether his hands were on his patient's pole or on his own, it was the same. The Marquis was so good a man, and had such a fund of magnetic virtue, that he could have magnetised a post, or through one.

So far as we have gone, we have seen simplification on the increase. Mesmer had an apparatus of tubs and bottles, carried a wand, played on the piano, and wore flesh-coloured silk inexpressibles. The Marquis de Puységur dropped the tub, the wand, the breeches, and the music—and was content to manipulate his patient's stomach. Even this was abandoned for gestures at a distance, which the Marquis found more powerful than all. If he produced such effects across a room, what would he have done a mile off! They would have increased, beyond question, in a geometrical ratio. But differences still arose among the magnetisers.

"Some maintained that gestures performed without the concurrence of the will to act, and even when accompanied by a contrary volition, were nevertheless perfectly magnetic, and actually produced the usual effects. Others, on the contrary, insisted that the will to act should always accompany the gestures; and that these without the will were absolutely powerless. There were even some who looked upon the gestures as a useless accompaniment to the operation, and saw nothing more in them than a mechanical contrivance, calculated to fix the attention and sustain the will of the magnetiser, the latter being considered as the sole cause of the magnetic phenomena." 146.

Thus some believe that the will does every thing, and some that it is the gestures. We are much in the situation of Zadig. One sect at Babylon contended that salvation could only be obtained by hopping into the temple of Baal on the right leg. Another sect assured of destruction all who did not hop in upon the left. Zadig jumped in upon both. As one batch of magnetisers tells us that the will does nothing, and as another informs us

that gestures do nothing, we humbly propose, as pacificators, that neither one nor the other does any thing. However this may be, M. Dupotet is not quite sure that magnetism at a distance answers, and he cites and approves the directions of M. Deleuze for the magnetic process. He alludes, *en passant*, to the suppositions, that the magnetiser, in order to be successful, should possess the cardinal virtues of faith, hope, and charity; and that magnetism can take no effect in the presence of a sceptic. M. Dupotet himself does not coincide with these views. But we were alluding to the directions of M. Deleuze. Here they are.

“Having thus conferred together, and resolved upon treating the subject seriously, remove from the patient all such persons as might annoy you, and keep none but the necessary witnesses (one only, if possible,) in the room. Then prepare yourself so as to be neither too warm nor too cold, and to enjoy perfect freedom in your gestures; you should also take your precautions not to be interrupted during the sitting. These preliminaries arranged, seat your patient as conveniently as possible, and place yourself opposite to him, on a seat rather more elevated than his, so as to hold his knees between yours, and to touch your feet with his own. Request him to give himself up, to think of nothing, and not to distract his attention by examining the effects he may experience; to be full of hope, and not to be uneasy or alarmed, should the magnetic influence produce in him momentary pains. After having composed yourself, hold his thumbs between your fingers, so that the inside of your thumbs may touch the inside of his, and fix your eyes upon him. You may remain from two to five minutes in this position, or until you feel that your thumbs and his are at the same temperature. This being done, you must withdraw your hands, by moving them outwardly right and left, so that the inward surface be turned outwards, and raise them as high as the head; you must then lay them on both shoulders, and leave them there for about one minute; then bring them down along the arms to the extremity of the fingers, touching slightly all the way. You will repeat this manipulation five or six times, keeping your hands off the body when you raise them. You will then hold your hands above the head for a moment, and draw them down before the face, at a distance of about two inches, as low as the pit of the stomach. Here you will stop again for about two minutes, laying your thumbs on the pit of the stomach, and your fingers under the ribs. You will then slowly come down the body as low as the knees. These manipulations should be repeated during the greater part of the sitting. You will also occasionally come nearer to the patient, so as to lay your hands behind his shoulders, and bring them slowly down the spine, and thence over the hips and along the thighs, down to the knees or to the feet. When you wish to bring the sitting to a close, you must take care to draw the magnetic fluid to the extremities of the hands and feet, by lengthening your line of motion beyond these extremities, each time shaking your fingers. Lastly, you will make before the face, and even before the breast, a few transverse manipulations, at a distance of three or four inches. It is essential to magnetise invariably downwards from the head toward the extremities, and never upwards from the extremities towards the head. The downward manipulations are magnetic,—that is, they are accompanied with the intention of magnetising. The movements made upwards are not so.” 151.

There are some of these arrangements which must receive our approbation, and some which must excite astonishment. We cannot but admire the wisdom of removing all persons that might annoy the magnetiser, inquisitive people who suspect delusion or fraud. The advice to the magnetiser to keep himself neither too hot nor too cold, in other words to make himself comfortable, is judicious. It is judicious too, to urge the patient to give

himself up, and not to examine the effects he may experience. A vivid curiosity is beneficial in other sciences, but much to be reprobated in animal magnetism. Faith is a magnetic virtue. The manipulations enjoined by M. Deleuze are remarkable. That gentleman seems to act by a rule we had often heard of, but never seen so circumstantially set forth—the “rule of thumb.” And, if the proof of the pudding be in the eating, a very excellent rule this must be. Thumb a man downwards and he sees with his rump, or is at once a ready-made prophet—thumb him up again, his bum returns to its old ignoble offices, and he knows no more of what will happen this day twelvemonths than ourselves. Wonderful science!

But there is, says M. Dupotet, a great obstacle to the development of the magnetic power—pride. “One of my somnambulists once observed that a man may possess an independent fortune, which may allow of his time being devoted to the relief of the poor, to which he may add all the conditions of disinterestedness, persevering application, strength, charity, &c.; and yet he may not be entirely successful, because in his heart the pride of success unnerves his faculty of doing good.” Incomprehensible, as well as wonderful science!

M. Dupotet warns us against premature exclamations of “extraordinary,” “impossible.” We agree with M. Dupotet. The proselyte of Mesmerism should deem few things extraordinary, and none impossible. But let us examine the physical phenomena.

“The symptoms most commonly induced are the following:—slight pricking and winking of the eyelids—an increase, or perhaps diminution, in the pulsations of the heart—a sensible alteration in the temperature of the body—the cheeks sometimes are flushed, or become extremely pale—the expression of the countenance, indeed, undergoes a remarkable change—stretchings of the limbs and deep yawnings succeed—a gurgling noise (*borborygmus*) is often heard in the throat—the patient, perhaps, disposed to move, yet feels unable to do so, or experiences an unusual sense of composure, which is to him a peculiar, an undefined delight—the breathing frequently becomes much affected, and by a singular anomaly, occasionally the circulation increases in rapidity, while the respiratory movements of the chest become less and less frequent. In one case, particularly, which fell under my observation, the pulse previous to the operation was sixty-five, the inspirations twenty-four per minute; after the operation, however, the pulse rose to one hundred and fifteen, and one hundred and twenty, while the inspirations fell to twelve. These are the primary and most simple effects of animal magnetism; but often, under circumstances which it is previously impossible to determine, phenomena of a more remarkable character are developed. The eyelids of the magnetisee appear spasmodically affected, and close against his will; in vain does he attempt to open them, or change his attitude, in order to keep himself awake; for, if the magnetiser persevere, he yields gradually to his influence, and sleep, more or less profound, supervenes. His head, by its own weight, inclines forward upon the chest, or more rarely, is thrown backwards; his eyelids are generally half-open, and the eyeball moves slowly in the socket: its motions may be followed by the observer, who will perceive it gradually become fixed, drops of mucus fall from the lips, the limbs become cold, and the respiration audible. If spoken to, the magnetic sleeper may perhaps attempt an answer, and appear manifestly unable to speak, or he will suddenly awake, rub his eyes, stare round him with astonishment, and recollect what has passed, as we may recal a dream.” 33.

This magnetic slumber seems to us to have been described by anticipa-

tion by Pope in the *Dunciad*. A prosy orator reads to the assembled dunces.

Soft creeping words on words the sense compose,
At every line they stretch, they yawn, they doze.
And now to this side, now to that they nod,
As verse or prose infuse the drowsy God.
Who sat the nearest, by the words o'ercome,
Slept first ; the distant nodded to the hum.
Then down are roll'd the books ; stretch'd o'er 'em lies
Each gentle clerk, and muttering seals his eyes.
As what a Dutchman plumps into the lakes,
One circle first, and then a second makes ;
What dulness dropt among her sons imprest
Like motion from one circle to the rest :
So from the midmost the nutation spreads,
Round and more round, o'er all the sea of heads.

It must be obvious that this general somnolency was not from the gentle dulness of the orator. It was clearly magnetic, and on magnetic principles should be explained. The orator's gesticulations, his thumbing of the pages, perhaps his occasional blowing of the nose, were mines of inexhaustible, though then unknown power, and sent his audience to sleep.

But the sleep of Nourjahad himself is hardly comparable to that of the "magnetisees." M. Dupotet cites a number of the best attested cases, in which the individuals slept so soundly that they were pricked and burnt, had fingers put in their eyes, and heard pocket-pistols suddenly let off in immediate contact with their ears, yet manifested no sign of suffering, surprise, or consciousness. Take the following fact, one of the shortest, but, perhaps, one of the weakest, as a specimen.

The tenth volume of the *Bibliothèque de Médecine* contains the memoir of a female somnambulist, who was insensible to the lashes of a whip inflicted on her bare shoulders ; and once she had her back well besmeared with honey, and in this state was exposed to the stinging of bees, under a scorching sun, yet although severely blistered, she did not manifest any sign of pain until she was awakened, when she suffered acute agony, and complained grievously of the cruel treatment she had experienced.

It is a pity that *Regulus* could not be magnetised. Fortunately for humanity, the pain of operations may be said to be at an end. M. Dupotet relates cases in which moxas were applied, abscesses opened, and tumors cut out, without the patient knowing any thing of what was going on. It would be the acmé of cruelty and injustice to operate on any one not made insensible by Mesmerism.

It is disagreeable, if not unphilosophical, to seek simple explanations for marvellous phenomena. The mind loves to repose on wonders, and is annoyed at the scepticism which debases by bringing them to the level of the ordinary operations of the understanding. A contemporary writer on animal magnetism,* whose statements we have already quoted, has endeavoured, and with apparent success, to shew that this insensibility to irritants or injuries is common, independently of magnetism.

Nay, the letter-writer goes so far as to produce a tally to M. Cloquet's

* Medical Gazette, March 17, 1838.

case, a thing which must be considered particularly unkind of him, because the Mesmerists make that case their *cheval de bataille*.

"Our case," writes the correspondent of our contemporary, "is this; it occurred some few years since, and, for obvious reasons, the names are suppressed:—A young lady, subject to hysterical fits, fell down in one of them, and struck her forehead; she was taken up quite insensible, with her features fixed, her pulse regular, her respiration easy; in short, in a state of deep sleep—of trance. There was a puffy tumor over the situation of the blow, and under the idea that injury might have resulted to the brain or its membranes from the violence, she was trephined after having been insensible for two days. The whole of this painful operation elicited from her *no expression of sensibility*; every thing was found healthy, and the wound was closed again: she remained for two days more in the same state, and then awoke in her usual health. The wound did well, and, with the exception of one or two more similar fits, she experienced no further inconvenience than before the accident, her hysteria being soon after completely cured. On awaking, she detailed all the proceedings of the operation of which she had been *painlessly sensible*. In this particular alone did the case differ, as regarded sensibility, from M. Cloquet's, and from those before related of Sauvages, Lorry, &c., as well as from those of the fanatics of St. Medard, whose histories we shall take occasion again to refer to at length, who endured, apparently without pain, and even called, for, the most violent blows from heavy weapons on the most sensitive parts; and Bodin, in his *Demonomanæ*, p. 164, gives insensibility of parts of the body as one of the most frequent signs of *possession*."

A moderate acquaintance with the history of enthusiasm, with the tricks of imposture, and with the phenomena of hysteria, would lead reflecting persons to the conclusion, that strange as the effects attributed to Mesmerism may appear, they are explicable on the supposition of the influence of some or of all those agencies. But such a conclusion would imply the exercise of judgment, the institution of comparisons, the calculations of reason, and the operations of knowledge. A tedious process, disgusting to some, unintelligible to others, and not half so acceptable to the mass of men, as the instantaneous action of a mysterious dogma. The recipe for successful quackery will probably always answer:—"Tell men what common sense says is impossible."

It cannot be a matter of astonishment that convulsions should be excited, as well as somnolency. An agent so powerful as animal magnetism may well produce such an effect. It is no joke pointing a finger at some patients, at least M. Petit found it none. M. Dupotet first directed his hand towards the right wrist, which immediately became convulsed; he then stood behind the patient and directed his finger first towards the left thigh, then towards the left elbow, and lastly, towards the head. Each of these parts was almost immediately seized with convulsive movements. But bad as it is to have a magnetic finger turned to us, it is ten times worse when it comes to toes. M. Dupotet, for instance, directed his left leg against that of the patient, which became immediately so much agitated that he nearly fell off his seat. He then directed his foot towards the right elbow of M. Petit, which became violently agitated; he then stretched his foot towards the left hand and elbow, and violent convulsive movements developed themselves in the upper limbs. If M. Dupotet had actually given M. Petit a kick, the consequences must have been dreadful. Imagine a magnetiser kicking one down stairs!

It is unfortunate, because it generates scepticism, that the convulsions of hysteria, and of nervous temperaments, are so similar to those produced by Mesmerism as not to be distinguishable from them. We need scarcely cite instances in point. Who has not seen a tone, a gesture, favour or interfere with the paroxysms of hysteria? Who ever dreamt of the operation of any occult agency? Surely the Mesmerists deserve great credit for investing even familiar phenomena with the garb of mystery and with the interest of unintelligibility. And it must be recollected that they have the advantage of physicians and surgeons in general. If the winks and nods of the mere doctors effect a nervous female, it is only when she can see them. But the magnetisees see as well with the back as the front of their heads, and a gesture that is out of sight will affect them as much as one that is in. Yet M. Berna's experiments shew that it is highly desirable for the magnetiser and the magnetisee to understand each other perfectly, and to proceed by fixed and regular rules. Accidents are then less likely to happen, and the convulsions, or the somnolency, occurring in the proper place, and according to the proper routine, the science of Mesmerism is properly appreciated.

Imitation has been vulgarly supposed to have much to do with the convulsions, and with the other phenomena of Mesmerism. Analogy, indeed, and reason would favour that idea, but reason and analogy are fallacious.

"It is but a short time," says the correspondent of the Gazette, "since we saw nearly every woman in a large surgical ward in hysterics, the example for which had been set by one who saw a slight operation performed on another patient, Dr. Bright mentions a similar case. Dr. Darwin speaks of a number of nuns who were successively afflicted with hysteria, and amongst other symptoms, an anxiety to imitate the squalling of cats. Dr. Whytt describes a disease common in the Island of Zetland, which affected a number of young unmarried women, and some few of the opposite sex. There were violent palpitations, convulsions of the limbs, and difficult respiration. If one was seized in the market, or at church, all who had ever been affected before directly followed the leader, and each such general disturbance was sure to increase the number of convulsionnaires. Boerhaave had a similar case in a number of boys and girls in a charity-school at Haarlem, and Dr. Haygarth another in Anglesey, where in two or three months 18 girls were affected with pain in the head and side, convulsions, and other symptoms, which magnetisers would have called magnetic. In short, the acquirement of even severe hysterical affections, if not of epilepsy and other nervous disorders, by imitation, is well known, and its occurrence guarded against by every practical physician, and even by the public."

This wears a specious air. But why trouble ourselves to weigh the effects of imitation, when a readier and an ampler solution presents itself in the powers of magnetism?

If the physical phenomena of Mesmerism are strange, the psychical are infinitely more so. It is in the latter that the science shines in all its glory, that it exalts the intellect, confounds the senses, and shews its superior to the laws of nature.

"In all ages," says M. Dupotet, "the human mind has been a perplexing problem for the study of philosophers, who have narrowly watched its development in health, its aberrations in sickness, and its occasional unclouding in the hour of approaching death." 58.

M. Dupotet adds in a note—

"The unclouding of the mind, previous to death, or the prevision of the dying,

is a phenomenon manifestly identical with the clair-voyance, or lucidity, of the magnetic somnambulist. Thus does the study of animal magnetism, as we go deeper and deeper into its apparent mysteries, assume a peculiarly sacred interest; it is the unveiling to us of our spiritual nature, and leads us onward even to the verge of that future state of existence, which all men, as they approach, even the most shallow Pyrrhonists, contemplate with a feeling of awe, not unmingled with apprehension." 58.

Metaphysics have always been perplexing, it is true; but the perplexity has not extended beyond the mental operations. Men have never doubted that the eye was exclusively made for seeing, or the ear for hearing. But Mesmerism enjoys the proud distinction of not only rendering the obscure mental operations more obscure, but even of contradicting and confusing the clearest dictates of reason. The clair-voyance of the magnetiser is identical, says M. Dupotet, with the prevision of the dying. We think that highly probable, and the one fact is much on a level with the other. In these sceptical times, prevision is not much observed on death-beds. It has not been our fortune to hear dying persons foretell the future, nor to see them distinguish the figures on a pack of cards through a party-wall. The evidence of their *having done* so is, however, as good as that of the magnetisee's *now* doing it. Whether the interest attached to the animal magnetism is "peculiarly sacred," we will not pretend to determine; but certainly it leans for support on all that is recondite, abstruse, and mysterious, and its favourite analogies are drawn from phenomena which usually provoke the smile of incredulity. The more wonderful and monstrous a story of somnambulism, the better it suits the tastes and purposes of Mesmerism. But this cuts two ways. By proving that Nature abounds in extravagances, the scepticism extended to the extravagances of magnetism is, of course, diminished; and so far it is benefitted. But, on the other hand, the very prevalence of wonders of this sort, is calculated to make us suspect that the wonders of Mesmerism are of a similar description, the result of natural causes naturally explicable; and not the effects of any special agency. The unbeliever too is hardened in his unbelief. Being convinced of the fallacy of one set of facts, he is not much prepossessed in favour of the set they are brought to support.

The case, for example, reported on the authority of the Archbishop of Bordeaux, would, if duly swallowed, establish the fact that eyes are not necessary for the act of vision. Proving therefore, something marvellous and impossible, it is just the fact for the magnetizers, who are wholesale dealers in wares of the same sort. The authority of the Archbishop is consequently treated with becoming deference, and his case receives the confidence so justly due to it. Perhaps some of our readers may not be aware of the excellence of the Archbishop's story, nor of the faith that it deserves. Being short, we shall quote it.

"It is that of a young ecclesiastic who was in the habit of rising during the night, in a state of somnambulism, and writing his sermons. When he had finished one page of his manuscript, he would read what he had written aloud, and revise it. In so doing he made use of the expression "*Ce divin enfant*," and in reading over the passage he changed the word *divin* for *adorable*, and then observing that the pronoun *ce* could not correctly stand before *adorable*, he added to it the letter *t*. In order to ascertain whether he made any use of his eyes, the archbishop held a piece of pasteboard under his chin to prevent his seeing the paper before him; but he continued to write on without being at all incom-

moded. He copied pieces of music while in this state, during which his eyes were observed to be perfectly closed. It also happened that the words were written in too large a character, and did not stand over the corresponding notes; he soon perceived the error; blotted them out, and wrote them over again with great exactness." 62.

Mr. Burchell, in the Vicar of Wakefield, expressed his admiration of facts of this description, by the explanation—"fudge!" But the respectability of an Archbishop must preclude the idea of his telling a lie, although his account does really look very like one. It would be inconsistent with clerical obedience, for the curate to humbug his ecclesiastical superior.

Most of our readers must have heard the Irishman's answer when asked if he was acquainted with Hebrew. "Plase your honour, I can't tell till I try." Though people may laugh at the apparent bull, it really is no bull at all. This is evident from a fact, respectfully quoted by M. Dupotet from "an English Physician, Dr. Sibley."

"It lately happened," says he, "that a young gentleman, about fifteen years of age, from one of the public schools, slept in the same room with me. He chose to go to bed early, and when I came into the same apartment about two hours after, he appeared remarkably intent upon his studies though fast locked in the arms of sleep. I stood some time at his bed-side and heard him repeat several lines from Homer and Virgil, after this, he repeated, with a bold and nervous accent, the whole of the Hebrew alphabet, then turning, seemed to fall into a more composed sleep. The next morning, at breakfast, I related this circumstance to the company in the presence of the young gentleman, and all were instantly commending the great progress he had made in his studies. The young man instantly declared, that however conversant he might be with Virgil and Homer, he had never heard the Hebrew alphabet repeated, nor did he ever know the name of any one of its characters." 65.

The value of Dr. Sibley's testimony is enhanced by the fact of his being the author of "*a Key to Physic, and the Occult Sciences.*" The case is related in that work, and, must have been intended, as it was admirably calculated, to support some of the "*Occult Sciences*" of which it treated.

It is not requisite, we think, to multiply instances of this species of fact. They abound in Continental writers, in antique chroniclers, in times and countries famous for credulity, and disposed to it from ignorance. Those who have a relish for such facts may easily cull plenty of them; those who have not, will fail to be convinced by numbers of them. Animal magnetism naturally appeals to them for analogical support. Itself a compound of wonders and impossibilities it absorbs all minor monstrous things, as Aaron's rod swallowed the rods of all the Maji.

We have said that M. de Puységur discovered magnetic somnambulism. And a discovery it was. There never was, and there never will be, any thing fit to hold a candle to it. The Priestess of Delphi, Joan of Arc, Johanna Southcote, were mere bunglers. Just listen to a fraction of M. Husson's account of a magnetic somnambule.

"The somnambulist has his eyes closed; he neither sees with his eyes, nor hears with his ears. yet he sees and hears better than a waking person. He sees and hears only those with whom he is in relation. He sees only that at which he looks; and he usually looks at those objects only to which his attention is directed. He is submissive to the will of his magnetiser in all things which cannot injure himself, and in all that does not oppose his own ideas of justice and truth. He feels the will of his magnetiser. He sees, or rather he

has a perception of, the interior of his own body, and of that of others; but he usually remarks those parts only which are not in the natural state, and which disturb the harmony of it. He recalls to his memory things which he had forgotten in his waking state. He has previsions and presentiments, which may be erroneous in several circumstances, and which are limited in their extent. He expressing himself with surprising facility. He is not free from vanity; his self-improvement is progressive (*il se perfectionne de lui-même*) for a certain time, if guided with discretion; but if ill-directed, he goes astray." 77.

M. Deleuze swears to all this, and to something more, for he declares positively that the somnambule "hears an intelligence, a soul speaking to him, and revealing what he wishes to know." Who would not be a somnambule?

Well may M. Dupotet say that the most extraordinary phenomenon of magnetic somnambulism is the clair-voyance, or vision without the use of eyes. Instances of this are so numerous, nay so oppressive by their numbers and their authenticity, that M. Dupotet even apologises for detailing them. We may take at random one or two of these excellent models of facts. It is detailed on the unexceptionable authority of M. Chardel.

"The Somnambule having recovered her senses (for she had just been seized by syncope), called for some water; I went to take a decanter from the mantle-piece but it was empty. I took it, for the purpose of filling it, into the dining-room, where I had observed a filtering tank; I turned the cock, but no water came; and yet the tank was full. I thought that the cock should first be unstopped, and I did it with a piece of wood which I split off; but still the water did not come out. I then supposed that the air-hole of the reservoir was obstructed, and as it was very narrow, it was necessary again to split the piece of wood in order to introduce it: but I was not more successful than before. At last I resolved upon filling my decanter with unfiltered water. My somnambule was still in the same attitude in which I left her. She had seen me all the time, had followed all my movements, and detailed them to me without omitting a single circumstance, notwithstanding there was between her and me two walls and a parlour,—and my actions included a number of minute details which nobody could have imagined." M. Chardel proceeds:—"I might adduce many more instances of similar sight, and even at considerably greater distances; but the circumstances would not be more conclusive." 88.

If this is not evidence we should like to know what is. If enabling a young woman to see through two walls and a parlour, is not conclusive in favour of magnetism, there is an end of all rational inquiry. A few facts of this description would prove anything. They are like the "*alleyhi*" witnesses in the Pickwick Papers. Let us take another of these "duffers." Dr. Despine deposes:—

"Not only did our patient hear with the palm of her hands, but we saw her read, without the help of her eyes, and with the extremities of her fingers, which she rapidly agitated over the page which she intended to read, and without touching it, as if to multiply the feeling surfaces; she thus read a whole page of a novel by Montholieu.

At other times we saw her single out of a parcel containing upwards of thirty letters, one which had been pointed out to her, and read on the dial, and through the glass of a watch the hour indicated by the hands; she also wrote several letters, corrected them by a second reading, marking the mistakes as she went on, and recopied one of them, word for word. During all these operations, a thick pasteboard screen intercepted in the most effectual manner every visual ray that might have reached the eye.

The same phenomena took place at the sole of the feet, and at the epigastrium; and the patient seemed to experience a painful sensation when simply touched." 89.

There are two or three men who have deserved and acquired great reputation for the accuracy of the observations, and their simplicity of their statements. Ferdinand Mendez Pinto, Mandeville, Munchausen, have all great merit in their way. But it seems to us that M. Chardel and Dr. Despine are very likely to eclipse it.

It is obvious that phenomena of this description are beyond reason, contrary to experience, utterly irreconcilable to common sense, and therefore to be received on some special grounds. Those grounds resolve themselves into the weight of testimony. No candid man can quarrel with that. He is only asked to disregard the whole experience of his life, to disbelieve the accumulated evidence of his senses, at the instance of men of such eminence in science as Mesmer, M. Charnel, M. Berna, and a few others. Can any thing be fairer? Away with the narrow mindedness which higgles at impossibilities. Away with the conceit which thinks that other men can be deluded. Away with the depravity which suspects that others may juggle or lie. These are the days for universal belief. We are bigots if we laugh at homœopathy—bigots if we disbelieve animal magnetism. Each has been shewn to be opposed to reason; each has been supported by testimony. Let us hear no more of the age of reason; ours is the age of witnesses.

They have proved that a woman may see through two walls and a parlour—that a person who knew nothing of Hebrew, could accurately recite the Hebrew alphabet—that the epigastrium or the bum was just as good an organ of vision as the eye—nobody can doubt it. But this is child's play.

In order to shew that magnetic somnambules enjoy the power of divining futurity; M. Dupotet shews, first, that this is easy and has been common enough, and, secondly, he gives the most satisfactory examples in the cases of magnetisees. The faculty of prevision, he says, "has been in all ages observed, and is attested by a concurrence of evidence which is irresistible." Sceptics may laugh, but nothing can be more certain than this. We should like to know what they will say to the case we are about to cite—that of a natural somnambulist, named Aaron—a fact which M. Dupotet "holds to be incontrovertibly established."

"A physician from Chartres saw her some time ago. On being introduced to her, in company with several other gentlemen, he questioned her, without being able to obtain an answer. Thinking that if he was alone with her, she might perhaps be induced to speak, he requested the spectators to withdraw. When they were both in private the following conversation took place:—

'Marie,' said he, 'do you know me?'—Yes, sir.' 'Whom am I?'—'You are a physician.' 'Whence do I come?'—'From Chartres.' 'Where is my house at Chartres?' 'In a small street running down a declivity.' 'Can you see my house?'—Yes, sir.' 'Is there any company in it?'—Yes, sir; four ladies, one old, two middle-aged, and one young lady.' 'For what purpose have I come in this part of the country?'—'To see a female patient.' 'Where is her complaint?'—(Here she pointed to the part affected, which we cannot just now recollect.)—'Where did I dine?'—'At M.'s.' 'Was there a good dinner?'—'Yes, sir.' 'Could you tell me what dishes we had?'—'Certainly.' (She names every dish and its particular place on the table.) 'What do I hold in my

hand?"—"A small wooden box." "What does it contain?"—"Sharp little iron-tools." "Now, what have I in my hand?"—"Some money."—"How much?"—" (She names the sum.) "In what coins?"—" (She specifies the various coins.) "Can you tell me my thought at this moment?"—"Yes, sir." "Say it."—"I dare not; I must not tell you."—"Well, I will tell you: I think of giving you this money."—"So you do, sir; but I could not say so." All these answers were perfectly correct. Other answers no less surprising than the preceding have been reported to us, but we shall confine ourselves to these.

Sceptics (and less would suffice to provoke scepticism) will, no doubt, exclaim that it is impossible to credit such assertions; but let them inquire into the evidence, and they will then come to the conviction that we state nothing but the truth." 109.

We would ask if better evidence than that was ever produced at the Old Bailey? We would ask, what is to be said against testimony now? The followers of Mesmer are quite of old Mr. Wellers mode of thinking:—"there is nothing like an alleybi." Good, wholesome swearing for them.

This fact is aptly employed for the illustration of the prevision of magnetism. That is just the same sort of thing. But the magnetisees are in general modest, and predict, for the most part, what will happen to themselves—a fit—a delirium—or a pox—and "I have seen," says Dr. Rostan or Georget, "positively seen, and repeatedly, somnambulists' foretell, several hours or days—even twenty days in advance, the precise hour and minute of the accession of epileptic or hysterical fits, and describe what would be their duration and intensity, which came to pass in exact accordance with the prediction."

We are inclined to complain of the magnetisees upon this score. While they are about it, they may as well see something good in the wind—a fall in stocks, or a revolution. We would recommend this. It would catch the practical men. There is an opening next year for an almanack. When the patient predicts her own fit, or fever, ill-natured persons are apt to object that the verification of the prophecy is to much in her own power—that, if a cheat, she can counterfeit, and if a fool, she can work herself into the appointed paroxysm.

Exaltation of the human faculties is another, and pleasing effect of Mesmerism. M. Dupotet, as usual, demonstrates its occurrence in sleep, and natural somnambulism. Who does not know the great things that have been done in sleep? But the mischief of it is that we forget them all on waking. Think of what the world must have lost. Animal magnetism, which puts its votaries asleep, develops, of course, these exalted faculties, which sleep, erroneously supposed a torpor of them, naturally sets agog. The magnetic somnambule conversing aloud, brings us into direct relation with that mystic essence, which is now unfettered and revelling in its freedom. Listen to its high and holy communings. The place in which they are delivered is the Theatre of the North London Hospital. There every Thursday, the interesting patients are subjected to Mesmerism, and pour out their souls in some such fashion as this.*

* We quote the sayings and doings of the somnambules at the North London from the *Lancet*.

Okey,* a girl about eighteen, loquitur, in a state of delirium.

"Oh!" she exclaimed, "what a dirty-white chair," turning it round. The chair was removed by Dr. Elliotson. She then advanced and said, with innocent familiarity, and a peculiar and agreeable tone of voice, "Oh! how do ye?" to the Marquis of Anglesea, who sat immediately in front of her. "White trowsers. Dear! you do look so tidy, you do. What nice things. You *are* a nice man." The Marquis wore bright buff trowsers. "Gloves, not white; and what a nice stick." (Turning to Sir C. Paget.) "Why do you wear your hat?"

Suppose Okey had had a natural dream, would she have recollected, should we have obtained, that exquisite idea—that "purest English undefined"—"You *are* a nice man." But to proceed:

"Give the glass to the gentleman again," the Doctor said. "Where is he?"—"Look round and see."—"Tisn't yours, beauty-cheeks," she said, to a rosy-looking gentleman on the right. The glass restored, she proceeded to amuse herself among the throng around her. "Oh, what a beautiful oyster!"

There was a phrase—'beauty-cheeks.' But the well of her vernacular was pretty deep.

"A sheet of mill-board was placed below her chin, so that she could see nothing that was beneath it. The board provoked her displeasure, which she vented thus:—"How do you, nasty beast! Such a dirty beast you are. I don't like you. Does your mother know you're out?" (Much laughter around.) "Go along with you."

How edified the Marquises, the Earls, the Doctors, and the Feelosophers (as Mr. Cobbet calls them) must have been, at this exaltation of the intellectual faculties—at this unfolding of the very soul. The bashful, the amiable, the gifted Okey must indeed have been an interesting object when she archly enquired of the paste-board, "does your mother know you're out?" Then observe how naively she chided Dr. Elliotson.

"Don't be silly," she said, "you silly man. Oh, but you're a fool, Dr. Ellison. Ha! ha! How do ye? Mine won't go like yours. They ain't so silly. Oh, Dr. Ellison, leave off, its no use."

Charming Okey!

"A child was now brought into the theatre, from the wards, and placed on the chair from which Okey was removed, who, not knowing what else to do, sat down on the mill-board, and whistled and sang in a sweet tone, with once very artist-like variations, evincing symptoms of a ripe faculty of music. Ending, at last, with *Jim Crow*, she stopped in one verse to ask Dr. Elliotson if *he* also had "come over from Kentucky," like Mr. Crow, and then volunteered to "wheel about, and turn about," but was prevented, to the manifest disappointment of many spectators."

We need not quote any more of the observations of the gentle Okey, or her colleagues. What we have transcribed will amply establish the truth of M. Dupotet's remark:—"that such persons during their somnambulism often manifest a knowledge and an intellectual activity which they do not at other times possess."

Not an uninteresting feature of these exhibitions is the "rapport" that

* A descendant it is to be presumed, of the famous Okey Pokey Wanky Fum.
—Printer's Devil.

seems established between patient and physician. The former tells the latter he's a fool, or ask him if he came over from Kentucky, with the most refreshing nonchalance. But it was for the purpose of proving the development of the mental powers insisted on by M. Dupotet, and highly characteristic in itself, that we quoted these experiments at the North London Hospital. They exhibit in a very strong point of view that singular and instructive phenomenon.

M. Dupotet justly remarks that the good preponderates over the evil in the world, and that "the current of all things flowing onwards is redolent of blessing." Certainly this is the case with Mesmerism. We have seen what that marvellous science has done. It has given to one, "tired Nature's sweet restorer, balmy sleep," and that in no niggard fashion—another, it has enabled to see through a piece of pasteboard, or two walls and a parlour, with the back of the head, the pit of the stomach, or the tips of the fingers—a third it has endowed with the gift of prophecy. If it did no more it would still, to use the beautiful language of the Baron, be "flowing onwards redolent of blessings." But the measure of its benefits to suffering humanity is very far from full. We are to see it miraculously curing the halt, drying up instantaneously the sore of scrofula, and resuscitating the dead. Even scepticism itself must blush at its suspicions of a science supported by such facts.

M. Dupotet triumphantly and properly appeals to them. Well may he boast:—"It was, I repeat, the successful treatment and cure of diseases, which had notoriously resisted every other remedy, which compelled the rudest and most inveterate of our antagonists to recognise the influence of magnetism." As all this has been proved by testimony, we see its superiority to all other evidence. The fallacious rules of logic, the ordinary operations of the understanding, are equally futile in explaining or in comprehending the phenomena of Mesmerism. But A and B swear, that what seems impossible has actually been done, and what modern philosopher would scruple to believe them?

The sceptic Hume argued in his Essay upon miracles, that it was more probable that men should combine for the purpose of falsehood, than that the laws of Nature should be reversed. But this argument lost its force when applied to the great truths of Christianity. For the interruption of the ordinary laws of Nature, for so mighty a purpose as the regeneration of the mind of man and the salvation of his soul, was less improbable than the combination of many persons, at many times, for the purposes of propagating an untruth, which, so far from being beneficial to them, must expose them as they knew, to contumely, misery, and, perhaps, a horrible death. These considerations have induced all men of capacity and candour to reject Hume's argument as inapplicable to the case of Christianity. But they have been disposed to consider it as sound in reference to the bootless, senseless, and ridiculous miracles of modern times, to the exploits of Hohenlohe, the pretensions of Johanna Southcote, and the gift of tongues of the Irvingites. Whether it will apply to the wonders of Mesmerism, we leave to others to determine. When we extend the terms of it, and affirm, *that* it is more probable that many persons should be deceived, and that some should deceive for the purposes of falsehood, than that the laws of Nature should be reversed, we advance a proposition that carries with it an air of plausibility,

and seems to have the sanction of modern experience. Yet it must be owned that it is troublesome and disagreeable to prove and entertain it. It is far more pleasant to take things upon trust, and, as the Marquis de Puységur performed his miracles from pure philanthropy, to display the same philanthropy in the belief of them. But to the cures.

1. "A woman of forty years of age, worn out by long sufferings, and unable to stir without crutches, resolved on having recourse to animal magnetism, and was conveyed for that purpose to Paris, in a sedan-chair. She was two days travelling a distance of thirty-six miles. Several fainting fits came on during this journey. On being magnetised upon her arrival, she fell into somnambulism, but sleep did not present any lucidity. The magnetic effects, however, produced by the magnetiser were such that he at once declared that, in a few days, the patient would walk without crutches. He therefore invited her to a ball, which he intended giving in his house on a certain day. The doubts expressed by the patient and her friends did not in the least disconcert him, but, on the contrary, he sent his invitations to a great many people, that they might go and convince themselves, and acknowledge the truth of his assertion and the triumph of magnetism. In the meantime the patient was magnetised every morning, and at each sitting a decided improvement was observed. On the eleventh day she began to attempt a few steps, being supported by the arms, and she left off using crutches. On the seventeenth, she came to the *soirée* of the magnetiser, ascended the stairs unassisted, walked about the room, and remained there until one o'clock in the morning, when she retired to her own house without having felt any more fatigue than would have been the case with a person in good health." 192.

There is a case. The petulant surgeon may possibly hint a few flaws in it. He may remark *that* the nature of the cause of the lameness is not mentioned—*that* we are left in ignorance of the character of the disorder and species of the "long suffering"—and *that* the case ends, like a novel, very happily but very suddenly. We hear of the marriage, but not of the subsequent miscarriages.

2. "Caroline Baudoin, twenty years of age, of a lymphatic temperament, had passed her childhood at Geneva, where the badness of her constitution fully developed itself, aggravated perhaps by the influence of the climate, or the use of unwholesome food. Her whole glandular system became diseased; her throat, breast and arm-pits exhibited tumors of a decidedly scrofulous nature, many of which suppurated, and discharged an abundance of purulent matter. The disease had been treated by all the most approved means; several issues had been inserted, but other tumours gathered and burst. One in particular, in the left arm, had burrowed down to the bone, and spread through the adjacent muscles, so as to render necessary the amputation of the arm." 188

The operation was successful, but another wound opened on her breast, and resisted every kind of medical treatment.

"Moved by the recital of her sufferings, I resolved upon magnetising her rather from an instinctive feeling that I might relieve her, than from any conviction that I could do her good, for I scarcely considered it possible to cure so inveterate a disease. In the course of three minutes' magnetisation, she fell asleep, and began by telling me that, had she known me seven months sooner, she would not have lost her arm. It was only three months since she had been operated upon. She pointed out the means of healing the wounds on the arm and breast, and on these being applied they proved completely successful. The most important thing, however, remained to be effected, which was to change her

constitution, or at least to modify it in such a manner as to prevent a recurrence of the previous eruptions. Magnetism had produced a sufficient degree of lucidity to allow of her giving advice to other patients, but hitherto not enough to describe the means of curing herself. One day, as she was prescribing for a patient whose recovery she was anxious to bring about, she interrupted the consultation, and told me that on the 24th of August, at nine in the evening, she should fall into a state of profound sleep, which would last for thirty hours; that this sleep would be very calm, if during the two preceding days she were not annoyed by anything; but otherwise she should be much agitated; and that by an unaccountable feeling she should endeavour to eat her own flesh. She therefore desired that precautions might be taken to check this fatal propensity, and requested that she might be incessantly watched. She declared further, that during this crisis of thirty hours, she would eat absolutely nothing; and that the scrofulous matter would be carried out of her system. She also said that during her sleep a *bruissement* would be heard at the epigastrium, caused by the flow of scrofulous humors. She then predicted her perfect recovery. This declaration was made on the 14th of July, 1833. I made her repeat it on the 21st of the same month, in the presence of fifteen persons, who drew up and signed a report to this effect, having previously taken care to ascertain her scrofulous state. In the intervening period many persons took cognizance of the declaration, and promised, if her prediction were fulfilled, to attest so remarkable a case. On the 24th of August, at eight in the evening, it was arranged that several persons should assemble in the house of the patient, at the Petit-Carreau; and I enjoined her attendants to put her to bed half-an-hour before the accession of her crisis, in order to prevent her being annoyed. All this was punctually done. At nine o'clock precisely, a number of visitors had congregated. On arriving, were informed that the crisis had declared itself a few minutes sooner than she had predicted, and that it was fully developed. On entering the room we saw the unfortunate girl with her face swelled, her tongue protruding out of her mouth, nearly, to all appearance, cut in two by her teeth, her limbs stiffened, and her jaws so firmly locked that it was impossible to open them. After having magnetised the masseter muscles so as to remove the stiffness of the jaws, I caused the tongue to be drawn in, which was already very much discoloured, and fortunately had only been bitten very slightly. No one had yet perceived that one of her fingers had not only been bitten, but that there was a loss of substance, the piece wanting having been swallowed by her during her previous paroxysm. The wound was now dressed, out of which no blood, but a great quantity of red lymph issued. As the violence of this crisis continued I thought it proper to remain with her during the ensuing thirty hours. I was perfectly right in having taken this resolution, for she struggled long with extraordinary violence, and attempted to put her hand into her mouth to bite it again, but she had been so bound down that she could only get at the sheets, a piece of which she succeeded in tearing off. The somnambolic state at length terminated; her prediction was fulfilled; and she was, to the satisfaction of all the parties interested, from that day cured." 191.

If the other case was enough to "beat Bannagher," this, to follow up the analogy, must be allowed to "beat the devil." Yet cynicism, which is never satisfied, finds fault even with a cure like this. M. Dupotet remarks this, in the state of magnetisation, she pointed out the means of healing the wounds on the arms and breast, and that these means proved successful. Yet he adds that she had not enough lucidity to describe the means of curing herself. There is here an apparent contradiction. It would have been desirable to have known what the "means" pointed out and made use of were. We suppose, however, that some wounds were open on the 24th

of August. It is a pity for the honour of magnetism that they were not specified. As they were "from that day" cured, it would have been useful to have been told of the process, whether granulation, or instantaneous cicatrization, or whether a new one altogether. But we pass on to a more conclusive instance of the wonderful powers of Mesmerism.

3. "In the thesis of a distinguished foreigner, M. Albert Jozwik, which was cordially received by the professors, who encouraged him to proceed in his scientific researches, several remarkable magnetical cases are reported. I extract the following,—'In the month of July, 1829, in the camp then before Warsaw, a subaltern officer of the third regiment of *Chasseurs à pied* of the Polish army, shot himself by putting the muzzle of his musket in his mouth. The medical officer of his regiment was instantly on the spot, and gave him every assistance, but in vain. This case was reported to me, as I was then superintending the medical department of the division. The body of the severely wounded officer had been conveyed to the infirmary, to which I immediately repaired; and, having found it still warm, I magnetized it. After a magnetisation of about half an hour, the poor fellow began to breathe, and was resuscitated; I then dressed his wound, and sent him to the hospital called Ujazdow.'" 196.

If that does not move thee, brainless sceptic, go! A revelation from Heaven itself, as M. Dupotet remarks, would not convince thee.

The Baron is of opinion, indeed he could not be otherwise, that a good work on the practice of medicine, founded on the principles of animal magnetism, is much required by medical men. Every one must lament the deficiency of a work of this description—of a work which will enable us, if we cannot treat a case with success, to throw our patient into a trance, and pump out of her the means of curing both herself and her neighbours. A singular advantage, too, accruing from this employment of Mesmerism is, that the somnambule being quite unconscious of what she has said in her somnambulism, we can, after all, take the credit of the cure to ourselves. Our readers will be delighted to learn from M. Dupotet, that—"this *desideratum* I propose endeavouring to supply in my next volume, to which this, as I have already stated, is only an introduction." We beg our country readers to be on the *qui vive*, and subscribe early for the valuable volume.

And yet, on consideration, it does not appear so requisite, for M. Dupotet, himself, informs us that medical science, even in its present imperfect state, is founded upon animal magnetism.

"The whole art and practice of medicine in the ancient temples consisted in the magnetic treatment which is even at the present day practised in India. Indeed, no manner of doubt can exist, that even in the hands of unskilful practitioners, in the midst of all their strange and extravagant superstitions, such men have wrought many very curious and signal cures. It is idle to suppose that any nation would believe generally in the efficacy of any therapeutical agent, were it only after all an errant folly or fiction, for however uninstructed men may be, they derive knowledge from experience, and it is not reasonable to presume that any method of treatment would for ages be persevered in, if the sick therefrom derived no description of benefit." 185.

This is a very acute argument, and when properly weighed tells no little in favour of Mesmerism. And yet on a superficial glance and in a logical form it does not seem to do so. The whole art and practice of medicine anciently consisted in magnetic treatment—the experience of men instructs them in the real value of medicinal agents—but that experience has led them

to depart from the ancient magnetism, and adopt the modern facts and principles of physiology, pathology and therapeutics—therefore, magnetism is not the true foundation of physic. We merely put this in a logical form, to shew the seeming inconsistency between the Baron's premises and his conclusions. But magnetism, as it does not require, does not make use of, the ordinary usages of reasoning or reason. It is clearly superior to both.

This mystical science, is not, however, exhausted. The deeper we go the deeper we may.

In the first place, the will, or magnetism, however induced, can be communicated through opaque bodies. We have spoken of the magnetic somnambule, who saw through two walls and a parlour. We will now give a crucial instance, quite as satisfactory.

"An Indian lady," says he, "residing in Paris, and possessed of great magnetic power, was solicited by a lady who accompanied me, to visit her, and give us a proof of the energy of her will. She had a maid servant, whom she kept under the magnetic treatment, and often threw into somnambulism. She was then working in a room entirely separated from us. The Indian lady, on being asked whether her maid should appear before us at her tacit mental bidding, composed herself for a moment, and magnetised her from the room where she then was sitting without speaking or making the slightest motion. A few minutes afterwards, we saw the maid-servant step into the room in which we were to inquire of her mistress what was her pleasure." 213.

What do our readers say to that? Bell-hangers beware. If we want "John" up from the kitchen, all we have to do is to compose ourselves upon our chairs, and will that John should appear. Mary will no longer say to John, "there's missus's bell," but John will quietly say to himself, "there's missus's will." The vulgar have been frequently observed to be in the advance of science, and have discovered the fact before philosophers have found out the explanation. We now see clearly, what before seemed obscure, the true nature of the common phrase—"don't you wish you may get it?" That phrase had obviously a deep magnetic meaning.

We have now displayed the principal phenomena resulting from the employment of animal magnetism. A slight analytical examination of them may not be uninteresting.

a. In the first place, we may remark that nothing is effected by the agency of Mesmerism, which the magnetisers themselves do not proclaim to have happened again and again independently of its assistance. The sceptic suspects, perhaps unjustly, the occasion of this strange anxiety to underrate their art. He sees, or thinks he sees, that, ashamed of its montrosities, and alarmed at its absurdities, they are willing to blind the public eye with the dust of like absurdities and like montrosities. Be that as it may, we observe in this respect a singular analogy between Mesmerism and Astrology. The proselytes both believe—

"That in this world there's not a wart
That has not there a counter part;
Nor can there on the face of ground,
An individual beard be found,
That has not in that foreign nation,
A fellow of the self-same fashion;
So cut, so coloured, and so curled,
As those are in the inferior world."

b. Although the phenomena of Mesmerism are all wonderful, they admit of being resolved into two distinct sets. The first are simply wonderful—the second simply impossible.

The extraordinary phenomena, however extraordinary, are still not contrary to reason. If the magnetisee falls into a species of trance, raves in delirium, or is agitated by convulsions—nay, if, like the Priestess of Delphi in former times, and the Irvingite fanatics in our own, she affects to foresee and to foretell the future,—there is nothing which might not readily be generated from the heated imagination, acted on by *any* powerful impression. The very pains which are taken by the magnetisers to insist on the frequency of such phenomena, independently of magnetism, prove, if they prove any thing, that it is the nervous system of the individual acted on, and not *any* special power in the agent, which gives those phenomena birth. It is true that they now appear in a monstrous and exaggerated form. But the collateral circumstances are monstrous and exaggerated too. If our ordinary hysterical patients do not “go the whole hog,” like Okey, their antics, it must be remembered, are *checked*, not *encouraged*. Give hysteria licence—pat it on the back—exhibit it—and offer the premium that the magnetisers do offer, on its fancies, follies, and cheats, and a thousand Okeys would soon be in the field. But if Okey received her deserts, and had a pailful of cold water emptied on her once or twice, as many an honest woman has had, we should soon find that brooches would not be taken for oysters, and her vulgar slang would be kept in the pure recesses of her own bosom, not poured into the ears of credulous marquises and gaping dukes.

c. The clair-voyance, the transposition of the senses, the prevision, are—“Fudge.” Those who can believe any or every thing, will probably believe them. The patrons of quackery, and they are many—the proselytes of homœopathy, and they *were* a few—the lovers of the marvellous in all its forms, from the man in the bottle to the magnetic somnambule—the thirsty hunters for novelty—all these will credit the possibility and the fact, of God permitting his demonstrable and eternal laws to be reversed, on the most ridiculous occasions, for the most ridiculous purposes, by the most ridiculous of means. They will believe that any impudent strumpet may get a permit from Heaven to exhibit at half-a-crown a head, vision with her fingers or her toes, and may be allowed to read the mystic scroll of the future, which God has wisely hid from the penetrating gaze of science, and the humble wish of virtue. It would indeed appear that—

The pleasure is as great

Of being cheated as to cheat.

They who can credit such gross delusions are beyond the reach of argument. Ridicule is the only method of correction. If they feel it, there are hopes. If callous to it they would do well to “purge and let blood” when the moon’s at full.

It would be hard to predict how long this epidemic folly will last. As the dog-days are approaching, it will rage, of course, for a while longer. It will count its votaries till some new absurdity, fresher at all events, if not more monstrous still, appears on the horizon. The stock of credulity in this world is inexhaustible. Reason, experience, are opposed to it in vain. The wonder-monger, like the gambler, plays deeper the more he has lost. The next throw, he may win.

THE STOMACH IN ITS MORBID STATES, &c. &c. By *Langston Parker, M.R.C. Surgeons, &c.* 8vo. pp. 302. Longman and Co. 1838.

MANY disorders of the stomach are not yet explored—and still more of them are mistaken or mismanaged. This centre of sympathies is exposed, more than any other organ to a variety of deleterious agencies, and the disorders thence resulting are reflected from part to part so obscurely and mysteriously, that the practitioner is bewildered in the maze of anomalous and unaccountable phenomena. In this dilemma he is often induced to abandon the attempt to unravel the primary source of the multifarious symptoms, and direct his attention merely to the most prominent and pressing. The work before us is one of great merit—not so much on account of its originality, as of the care and judgment which Mr P. has exercised in selecting from various Continental physicians and pathologists, a mass of facts and opinions elucidating numerous disorders of the stomach.

The work is divided into thirteen chapters, and embraces an immense number of divisions and subdivisions. The author considers that the stomach presents two grand or primitive morbid states—one characterized by lesion of its sensibility—the other of lesions of its circulation, comprising that great variety of affections called and treated inflammatory.

1. The chapter takes up, contrary we think to the order of Nature, the inflammatory affections, beginning with mere vascular congestion, or morbid turgescence of the vessels in the mucous coat, interfering with the function of digestion, and if unchecked, going on to inflammation. "This morbid fulness of blood in the mucous coat results from *irritation*, generally prolonged and frequently repeated." Thus the nervous system of the organ is acknowledged by the author, to be first implicated even in this the lightest shade of vascular derangement. These irritations are chiefly dietetic, but may come on in consequence of several diseases. "Persons thus affected are on the brink of a serious disease, but not in it." The symptoms vary from mere sense of distention after food, up to actual vomiting, thirst, pain, fever and head-ache. Many appellations have been given to this state of things;—as gastric irritation, indigestion, dyspepsia, and many foreign names of difficult pronunciation. Broussais and the disciples of his school, maintain that this is veritable *gastritis*, and more than temporary or evanescent congestion; but to this doctrine our author demurs, and so do we. The question is not easily decided, as we have few opportunities of *post mortem* examinations—and even if a man died of another disease, but labouring under this form of indigestion, the state of the stomach, after death, could bring no conviction to the mind of the cautious investigator.

Be this as it may, our author thinks that this congestive state, if neglected, may terminate in various ways—in true gastritis, or diseases, from sympathy of the liver, brain, heart, and lining of the bronchiæ. This vascular congestion of the stomach is a common attendant upon all, or almost all, inflammatory and pyrexial affections in other parts of the body, and ought to be borne in mind when we are prescribing medicines for them. This same gastric condition is also very often set up at the termination of acute

diseases, and throws them back into relapses from convalescence. It is usually the result of too much food, when the craving appetite returns. Most eruptive fevers present this state of stomach at the beginning.

CHAPTER THE SECOND.—ANEMIA.

Our author maintains that this condition of stomach—the very reverse of the former—“presents all the symptoms depending on vascular irritation—namely, epigastric tenderness, and pulsation, vomiting, distention after food, &c.” He adduces some cases in illustration. We are tempted to introduce one of these cases.

“A lady, aged thirty, miscarried in the third month of her pregnancy, at which time she lost much blood. At the present time, two months after the abortion, she is labouring under the following train of symptoms:—Great pain in the epigastrium, aggravated by pressure, and accompanied by strong pulsation in this region. Fulness, pain, and distention after meals, with nausea, occasional vomiting, palpitations, and inactive bowels. A medical practitioner, supposing these symptoms were dependent upon some inflammatory affection, had ordered leeches to the stomach, which had aggravated all the symptoms. The *pil. aloes, assafoet. et saponis*, was ordered subsequently, to regulate the bowels, and *chalybeates* were freely given. Under this plan, the pain, tenderness, pulsations, vomiting, and distention disappeared, and the patient recovered her usual health.” 13.

In the above and in similar cases, the disturbance of function must be mainly dependent on lesion of the gastric nerves, and it shews us how difficult it is, sometimes to discriminate morbid sensibility from congestion or chronic gastritis. In such cases the attendant and antecedent circumstances will guide us—and the effect of remedies will, at all events, unravel the mystery. The following opinion is quoted from Andral.

“It is a law in pathology that, in every organ, the diminution of the quantity of blood which it should contain in a healthy state, produces functional disturbances, as well as the presence of an excessive quantity of blood; and what is more, in both cases these functional disturbances are precisely similar.”* 15.

But we imagine that another explanation of these phenomena might be attempted, if not sustained. Bleed an animal to death, and the vessels of the brain will be found gorged with blood, or actually burst. In such cases Nature seems to throw all the blood she can preserve upon the most important organ or organs of the body; and we are by no means certain that such is not the case as regards the stomach, in hæmorrhages and other losses.

CHAPTER THE THIRD.

This chapter is dedicated to a “general review of the symptoms and sympathies dependent on vascular irritation of the stomach.” This review is thrown into different heads—namely, the state of the tongue—the state of

* “Andral. Clinique Medicale.”

the epigastric and hypochondriac regions—the organs of respiration—pulse and heart—brain and senses—local pains. These are all discussed in fourteen pages of the work. 1. *Tongue*. Though the state of this organ is very variable, and bears no strict relation to the degree of gastric disorder yet it generally presents an appearance of contraction, dryness, coat in the centre, redness at the tip and edges, erection of the papillæ. But when the gastric sensibility is very morbid, the tongue will often be coated throughout, with vividly red papillæ springing up through it, there being merely a red line at the tip and edges. Under such conditions we will frequently find great despondency, languor, epigastric uneasiness of an indefinable kind, especially on pressure. A third state is the beef-steak tongue, and where the almost total surface is red and smooth, denuded as it were, of its papillæ. In this kind of tongue there are often two white streaks, one on each side, running parallel with the raphæ—indicating serious disorder of the stomach. Mr. Parker thinks it indicates “a thickened or scirrhus state” of the coats of the stomach; but we can assure him, from no very limited range of experience, that this prognosis or diagnosis is much too grave. We agree with Mr. Parker, however, that with such a state of tongue, the epigastric region should be carefully examined—for, as he justly observes, the tongue itself, isolated from other phenomena, affords no criterion of the condition of the stomach.

2. *Epigastrium*. When the regions of the stomach, liver, duodenum, and spleen are carefully examined, even at the commencement of inflammatory irritation, some physical signs will generally be observed. Sometimes there are fixed pains in different points of the epigastrium or hypochondria. We recommend the following sentiment to our friend Dr. W. Philip.

“The state of sensibility in the centre of the epigastrium, which corresponds to the situation of the great nervous ganglia of the abdomen, is extremely deceptive, since most persons are sensible to moderate pressure in this situation.” 22.

Fulness in epigastrio is more significant—and in advanced stages is converted into hardness and dulness on percussion. Inflation, however, from flatulence, will render these parts sonorous, even where there is considerable thickening. The temperature of the epigastrium is often increased—and is not uncommon; and constipation is usually complained of, though *irregularity* of bowels is by no means infrequent. Pulsations and tremulous motions in the epigastrium are common attendants on incipient gastritis—sometimes evanescent, sometimes more permanent. Often they are only perceptible by the patient, and not by the practitioner.

3. *Organs of Respiration*. In this section our experience is at variance with our author. He avers that “no system is more commonly affected from inflammation in the stomach than the organs of respiration.” We appeal to every practitioner of experience whether even in the most acute gastritis, the lungs are commonly affected? It is quite clear that Mr. Parker has been brought up in the French school, and that more of his opinions have been founded on the lectures of the Parisian physicians than on his own clinical observations. Not a day passes in which we do not see the

deplorable consequences of attributing *cough* to the stomach. Let our readers ponder on the following passage.

"Several symptoms of disease in the stomach are to be found in the organs of respiration. The first is a short dry cough, which has been denominated, by the French, *toux gastrique*; sometimes this is the only symptom, but it may be accompanied by expectoration of frothy, bloody, heavy, discoloured mucus, accompanied by pains in the sternum, epigastrium, hypochondria, or some points of the thoracic parietes." 24.

Why if such symptoms as the above are to be referred to the stomach, we may save ourselves the trouble, in future, of all thoracic investigations. But our author informs us that, in these cases, the stethoscope will tell us there is nothing affecting the integrity of the lungs or their membranes! What! is frothy, bloody, heavy, discoloured mucous expectoration to be present, and no affection of the lungs or their membranes in existence? If these symptoms exist, and the stethoscope only tells of sympathy with the stomach, then auscultation is a curse, and not an important auxiliary in medicine. It is an *ignis fatuus* leading the practitioner into the most fatal of all errors! But even granting to our author that the pulmonic affection has been brought on by gastric disorder, we maintain that all thoughts of treating the *latter* must be abandoned till we have subdued the pulmonary affection.

4. *The Pulse and Heart.* On this point also, we cannot run parallel with our author, and he will hardly accuse us of entire want of experience. The following passage will shew that our author is occasionally led from the sober path of personal investigation by the Continental pathologists.

"The heart may be affected by irritation in the stomach in many ways; by mere increased impulse, by occasional intermissions of its pulsations, or by irregular and tumultuous motions. In some instances, an actual physical sign of disease may be present, and after death the heart be found perfectly healthy. Cruveilhier has recorded a case of this nature, where the action of the heart and the morbid sound it emitted was dependent upon stomach disease. I have recorded another, which will be found in a subsequent part of this volume. *The pulse is also liable to occasional variations, which are sometimes independent of the action of the heart. These symptoms are manifested in a double or triple motion of the artery to each contraction of the ventricle.*" 26.

Now we appeal to every auscultator in these kingdoms whether the passage marked in *Italics* by us, does not involve a physical impossibility. The pulse acting two or three times to one contraction of the ventricle!! It is an absolute impossibility; and we would just as soon believe that the dead man called out from his grave to the people walking over his tomb. Every one knows that the ventricle will often act, for many hours together, as before death and in cholera, without any perceptible pulses; but that the pulse should be in activity while the heart is quiescent, is a solecism in physiology. It would be a miracle—and miracles have ceased. If Mr. Parker should ever meet with such a case, and shew it to us, we will engage to pay him down one hundred guineas for the curiosity. Mr. Parker runs into another extreme, though not involving an utter impossibility, in the following observation.

"I have recorded one or two cases where the only symptoms of *diseased heart* were pain and tenderness in the epigastrium, nausea, distention, and weight after eating, and occasional vomiting." 27.

Now if a *disease* of the heart can exist without any symptom, but those dependent on the stomach, our auscultators may throw away their stethoscopes! The plain fact is, that disorders of the stomach will often interfere with regularity of function in the heart. Thus intermissions of the pulse, temporary palpitations, &c. are many times produced by flatulence, acidity, and other affections of the stomach; but we confess that we have never met with an instance where *disease* of the heart gave no indication of its existence except through the medium of the stomach.

5. *The Brain and Senses*.—That the brain sympathises largely with the stomach, no man can doubt; but even here we see daily errors committed by too credulously referring sensorial affections to the stomach. It is a very serious mistake too, when it is committed. We agree with Mr. Parker that stupor, giddiness, and confusion of thought are often the effects of gastric derangements, and that despondency, from gastric sympathy, is still more frequent; but we ought to investigate the case very cautiously before we come to the conclusion that the above symptoms, as well as head-aches, loss of memory, *muscæ volitantes*, mania, &c. &c. are merely symptomatic of stomach disorder. The mistake may be fatal, and the responsibility is fearful. Our own practice is to direct the chief attention to the head, at the same time that due care is taken not to injure the stomach—and whenever there is a doubt on the subject, to decide in favour of cerebral affection as the primitive or important malady.

6. *Local Pains*.—These are various in kind as well as in situation. There is not a part of the body that may not be occasionally the seat of these sympathetic pains. Young practitioners are constantly mistaking them for inflammations, and applying leeches unnecessarily. When in the pleura or intercostal muscles, they are often treated as pleurisy or pneumonia. Independently of the stethoscope the non-pyrexial condition of the pulse, the skin, and various indications, will apprise the observant practitioner of the nature of these local affections.

CHAP. IV.—CONFIRMED INFLAMMATORY AFFECTIONS OF STOMACH

The transition from a mere hyperemic to an inflammatory state of stomach is a fine theme for the lecturer amongst his gaping pupils—but the practitioner at the bedside of sickness knows the fallacy of nine-tenths of the criteria laid down by teachers and authors. The state of gastric congestion—and still more that of morbid sensibility of the gastric and duodenal nerves presents, in numerous cases, far more active and prominent symptoms than the state of actual chronic inflammation, even with hypertrophy or ramollissement of the coats of the organ. In this last condition we have often no more than constipation of bowels, dull pain in the epigastrium, unhealthy aspect, depression of spirits, anorexia, flatulence, and slight emaciation. The tongue does not afford any positive criterion. "We may have a clear tongue with a diseased stomach—a diseased tongue with a healthy stomach—or disease co-existing in both organs but independent of each other." The vermillion redness of the papillæ about the tip and edges, is

perhaps, as certain a criterion, as far as the tongue is concerned, as we have of chronic gastritis; but it is not upon one, two, or three symptoms we can depend.

In respect to the symptoms of chronic gastritis, as gathered from the function of the organ itself, they are various—loss of appetite, impaired, and slow and painful digestion, with distention, nausea, and a host of anomalous feelings that defy description, and which cannot be accounted for, even with all the advantage of excito-motory doctrines. Numerous cases are detailed, and a large mass of observations are drawn from foreign authors, especially Andral and Broussais, in illustration of this part of the subject. From the following quotation, it would appear that our author has been an *interne* of some of the Parisian hospitals, and that his experience and doctrines have been drawn almost entirely from such sources, under the guidance of our Gallic brethren.

“I have had the charge of several patients in the latter stages of gastric diseases, who have been able distinctly to trace the commencement of their complaints. These have seldom commenced before the age of twenty-five, at the periods when they had begun the habitual use of a fuller and more stimulating diet than that of the earlier periods of life. The symptoms with which they were first affected were those of simple indigestion, in its various forms of pain or distention after food, nausea, or vomiting. These have ceased at intervals, have been relieved by various plans of treatment, but have shown a disposition to recur at longer or shorter intervals from dietetic errors or excesses, or from other causes, in more aggravated and obstinate forms than those in which they first made their appearance, and accompanied by sympathetic irritations in the head, heart, liver, or lungs, exhibited in the forms of giddiness, palpitations, jaundice, or cough

On examining the bodies of such patients after death, what has been the condition of the organs exhibiting these symptoms during life? In the stomach, changes of colour or consistence, ulcerations or vegetations; in the brain, thickening of its membranes, effusions, increased determinations of blood; in the heart, alterations of its internal or investing membranes, or, what is more common, of its muscular structure; in the lungs, congested or inflamed states of the bronchial mucous surfaces, or of the lungs themselves; and in the hepatic system, a diseased condition of the veins or substance of the liver, alterations of colour or consistence, and various morbid states of the bile, the gall-bladder, and the excretory passages of the bile.” 47.

The foregoing pathological phenomena present no very cheering prospect to the dyspeptic invalid, whether in or out of the profession. But fortunately they are rarely the result of indigestion; and when we find such multiplied lesions, *post mortem*, in the three great cavities of the body, who can affirm that they all sprung from chronic gastritis? Broussais and his disciples will answer in the affirmative; but the thing is too preposterous to gain credence from the sober practitioners on this side of the channel.

CHAP. V.—MORBID SENSIBILITY OF THE NERVES OF THE STOMACH.

“I have shewn, in the preceding chapter, that the characters of pain attendant upon inflammatory conditions of the stomach are extremely variable, being sometimes obscure, at others violent, bearing no strict relation to the cha-

racter or degree of that inflammation upon which they depend, or with which they are associated. There are many diseases of the stomach which consist in a purely morbid state of the sensibility of the gastric nerves, without the association of any inflammatory action; these have been well described by Dr. James Johnson, in his work *On the Morbid Sensibility of the Stomach and Bowels*, and into their primary forms I consider it unnecessary to enter, referring my readers to that book for information on these points.

M. Barras has produced a work of some merit, entitled *Sur les Gastralgies et les Entéralgies*, or Nervous Diseases of the Stomach and Intestines. A careful perusal of the work will, however, shew that many of the cases detailed in it were evidently inflammatory in their commencement, and only rendered purely nervous by the pernicious system of large local depletions, adopted by most of the French physicians of the physiologic school, acting upon the aphorism of Broussais, that the greater part of all indigestions, in whatever form they are exhibited, are due to a chronic inflammation of the mucous coat of the stomach. M. Barras maintains, merely in opposition to M. Broussais, that the greater part of these affections are of a nervous kind, and dependent altogether upon certain and varied states of depraved sensation in the gastric and intestinal nerves; and to these causes he refers the group of dyspeptic symptoms of pain, cramp, spasm, chronic vomiting, morbidly increased, depraved, or defective appetite, and other symptoms of this kind.

The truth, however, rests neither with M. Broussais nor M. Barras, but between the two." 53.

This we believe; but we confess that we are far more inclined to side with Barras than with Broussais; and long and painful experience has convinced us that, however *gastritis* may become mixed up with *gastralgia*, in the progress of indigestion, the latter takes precedence in nineteen cases out of twenty. Examples are quoted by Mr. Parker illustrating the form under consideration. This form (morbid sensibility) may be either acute or chronic, and attended with a host of anomalous sympathetic affections of other and distant parts. Emaciation is a common consequence—partly from the patient's inability to take food, and partly from the miserable feelings he is destined to endure. Numerous cases are collected by our author from various sources, as examples of MORBID SENSIBILITY, for which we must refer to the work itself. If the following refinements of the physiological school of young France and Germany should enable any of our readers to discriminate the minute and often evanescent shades that distinguish, or rather confound, inflammatory with nervous affections of the stomach, we shall be extremely gratified.

"It is of the greatest consequence, as regards the treatment of diseases of the stomach, both in their primary and advanced stages, to ascertain whether the symptoms they exhibit are dependent upon nervous or vascular irritation, whether the affection be unaccompanied by inflammatory action, or whether the nervous symptoms which are manifested during the progress of the disease depend upon inflammation or not. I believe that, in a great majority of instances, an increased fulness of blood in the mucous membrane of the stomach, is present, at least during the paroxysm of the attack; yet we must be extremely cautious how we take such an opinion as the sole basis of our treatment. The degree of nervous irritation exhibited, whether this consist in actual pain, in mental despondency or irritation, in anomalous feelings attended by various exalted or diminished states of the sensibility, must be examined in relation to the actual state of vascular excitement with which they are or are not accompanied, and the treatment proportioned accordingly. The relative proportions which

these two states of excitement bear to each other, and the degree in which each is developed, must form the basis of all rational treatment, both medicinal and dietetic. Occasionally the symptoms dependent upon an inflamed state of the mucous coat of the bowels are confined almost entirely to those which are called nervous—*i. e.*, phenomena which are attributed entirely to the nervous system alone—are those merely which are found as indicative of inflammatory disease. I shall take the table arranged by Jolly for the basis of the distinctions between these two states.”

TABLE.

SYMPTOMS OF THE NERVOUS AFFECTIONS OF THE STOMACH.	SYMPTOMS OF THE INFLAMMATORY AFFECTIONS OF THE STOMACH.
<i>Pain.</i> *—Acute, tearing Intermittent Diminished by pressure And by taking food More frequently coming on in the morning	<i>Pain.</i> *—Dull, obscure Constant Augmented by pressure And by food Increasing towards the evening
<i>Tongue.</i> —Sometimes coated† Broad Clean	<i>Tongue.</i> —Almost always red† Contracted Thickly coated
<i>Appetite.</i> —Morbidly increased‡ Depraved Wish for high-seasoned meats and alcoholic drinks	<i>Appetite.</i> —Wanting‡ Never depraved Aversion to both
<i>Taste.</i> —Metallic Acid	<i>Taste.</i> —Bitter Clammy
<i>Vomiting</i> of mucous discharges	<i>Vomiting</i> of food
<i>Alternations of Heat and Cold</i> in the abdomen	<i>Constant Heat</i>
<i>Thirst.</i> —Not increased Wish for drinks sometimes hot, at others cold	<i>Thirst.</i> —Increased Constant desire for cold drinks
<i>Constipation.</i> —Frequent||	<i>Diarrhæa.</i> —Frequent||

* The two characters of pain described by Jolly cannot be depended upon as shewing any certain distinction between inflammatory and nervous disease of the stomach, that of the nervous kind is so constantly associated with, produces, and succeeds to, partial inflammations of the mucous coat.

† The state of the tongue is infinitely variable in the different forms of disease. The observations of Louis and Andral, and my own cases, shew that it may remain clean in aggravated forms of inflammatory disease, even where change of structure has been produced. It may be foul, and even aphthous, where the gastric inflammation is not urgent or well-marked.

‡ Bولimia, or morbidly increased appetite, is a symptom commonly attendant on an inflamed condition of the mucous coat of the stomach. Total loss of appetite may also be present, and, again, this function may remain unimpaired. We see how uncertain are all these rational signs of disease. A remarkable case of morbidly increased appetite, attendant upon cancer of the stomach, is detailed in the *Lancet* of October 1, 1836.

|| Constipation is a symptom almost invariably accompanying both forms of disease. Diarrhæa is certainly present in some instances of the inflammatory affections, even in the commencement of disease; in the advanced stages, where complaint has extended to the bowels, it is of more frequent occurrence.

SYMPTOMS OF THE NERVOUS AFFECTIONS OF THE STOMACH.

Stools.—Natural

Not offensive

Pulsations in the Epigastrium.—Intermittent

Not synchronous with those of the heart

No Fever

Or intermittent

Increase of Disease.—Early in the day

Urine.—Clear*
abundant

Heat of Skin.—Natural

No Progressive Emaciation

Physiognomy.—Natural

Temper.—Morose, fearful, irritable

Diagnostic.—Sometimes obscure

Prognostic.—Less dangerous

Anatomical Characters.—Equivocal, or altogether wanting

SYMPTOMS OF THE INFLAMMATORY AFFECTIONS OF THE STOMACH.

Evacuations.—Bilious, mucous, or bloody
offensive

Pulsations in the Epigastrium.—Natural, continual

Synchronous with the heart

Fever.—Frequent

Continued

Increase of Disease.—In the evening

Urine.—High-coloured*

Scanty

Heat of Skin.—Augmented

Progressive Emaciation.—

Face.—Pale, sallow, or sunk and anxious

Temper.—Little altered

Diagnostic.—More manifest

Prognostic.—More dangerous

Anatomical Characters.—Constant, but varied

If we had made the following confession, there would have been no end to the criticisms heaped upon us by the physiological refiners, and the German dreamers on this side of the Channel.

“The symptoms of vascular and nervous irritation of the stomach are sometimes so similar that the most experienced practitioner in diseases of this kind is occasionally at a loss to decide upon their precise pathologic character.” 76.

“*Sometimes!*” For sometimes read *very often*, and you will be much nearer the truth.

The sixth chapter is “on Affections of the Stomach characterized by Morbid States of its Secretions.” This, Mr. Parker thinks, may be a *primary* morbid state, resembling one or both of the two primary morbid conditions already described, but differing in its pathological character—and aggravated by the remedies employed for either of the other, and too often similar, affections. Here it is evident that we are led on from one refinement to another, till at last the practitioner of half a century’s experience and observation, is completely bewildered, and gives himself up to despair. A long life devoted exclusively to the management of gastric affections would be a great deal too short to study the refinements, not of our author, but of the French school where he has imbibed his doctrines.

This form of the complaint is the “*embarras gastrique*” of some of our

* Dézeimeris has related some cases where diabetes appeared dependent upon chronic gastritis, at least the cure of the gastritis completely removed the diabetes. Andral has also detailed a case where diabetes coincided with chronic gastritis; the former disease was removed by curing the latter.—*Clinique Médicale*, by Spillin, p. 869.

Gallic neighbours—the disorder of the “chylopoietic organs” of Abernethy, Curry, Hamilton, and half the practitioners of England—the first shade of gastro-enteric inflammation of Broussais and all his disciples.

“In this affection, as I have before said, a morbid condition of the secretions is the predominant feature of the disease. Professor Recamier has detailed accounts of the dissection of several subjects who have sunk from aggravated diseases of this character. He found, in these cases, the liver pale and voluminous, the gall-bladder full of black bile, which was extravasated in large quantities in the duodenum, jejunum, and ileum; the stomach and duodenum were likewise coated with thick viscid secretions, under which the mucous membrane did not present the least trace of inflammation or congestion. Andral has also described a disease under the name of gastrorrhœa, in which he considers this state of the secretions, as a predominant and primitive feature of disease, to be as well established as any other point of pathology.” 80.

Our author tells us that the symptoms of this form resemble, in some manner, those of hyperemia, or active congestion of the gastric mucous membrane—and may be divided into those phenomena which refer to the stomach itself—and those which include various sympathetic affections of other organs. “The tongue is generally broad, rather pale and moist, not contracted, and without increased redness at its point and edges. The papillæ are not elevated, enlarged, or vivid in their appearance; the coating is thick, and of a dirty white or yellowish colour. The epigastric region is full, but indolent—hardly sensible or tender under pressure, unless the disease be of long standing.”

“As a disordered condition of the secretions of the stomach may be combined with congestion or inflammation, in some instances, so may it in others be associated with a variety of nervous symptoms, which are totally different from those indicating increased determination of blood, either to the stomach or parts sympathetically affected.” 82.

By this time, we imagine our readers, as well as ourselves, are involved in a pretty considerable labyrinth of perplexities—and if they can see their way clearly out of the wood, it is more than we can! Numerous cases are cited from authors, and related from Mr. Parker's own observation, for which we must refer to the work.

We are quite willing to admit the frequency of this form of gastric disorder—indeed of its being more frequent than any other form. But we would ask the author, and our experienced readers whether in this, as well as in *all* other shades of the complaint, the nerves of the stomach are not primarily implicated in the disordered secretions? Is there ever a *morbid secretion* without antecedent *morbid sensibility*? We do not believe there is. Every grade and shade of moral impressions of a sombre cast, will load the tongue and derange the secretions. And through what medium? The nerves most assuredly.

CHAP. VII.—ON THE INFLUENCE OF THE STOMACH UPON OTHER ORGANS.

1. *On the Liver.* There is no doubt this organ is amongst the first to get disordered in function through sympathy with the stomach. The hepatic secretion is that which gives the most prominent and appreciable

character to the alvine evacuations, and hence we say the liver is torpid when the motions are pale—that it is inordinately active, when the egesta are of an orange colour and copious—that the biliary secretion is vitiated, when the motions are black, green, olive, and other colours, with detestable fætor, &c. The misery which these poisonous secretions occasion in the animal economy are indescribable—and undescribed. The vitiated bile which is poured into an irritable—a morbidly sensitive duodenum, has caused many a suicide, and induces torments which no language can portray! But these vitiated biliary secretions derange the whole of the innumerable secreting glands that stud the alimentary canal from the stomach to the rectum, augmenting the wretched feeling of the patient, and spreading the circle of sympathies to every part of the body, and every faculty of the mind. These consequences are not sufficiently adverted to by the Continental pathologists. They are perpetually in search of scalpel phenomena, and when they find them after death, they throw little light on the original disorder! The French therapeia is very defective in this class of maladies. The ghosts of gastritis and enteritis are so perpetually before their eyes, that purgation is quite out of the question—and even the mildest aperients are looked upon with a degree of dread little short of that with which a hydrophobic patient contemplates a pail of water! Now we do not recommend drastic purgatives in these disordered alvine secretions, though they are often necessary; but we do maintain that, unless these poisonous matters are daily carried off, we shall protract the sufferings of our patient and render more difficult the care of the disease.

2. *The Lungs.* Upon this subject we are at variance with our author, and with the French physicians generally. We know, by mournful experience, that it would be fortunate if the gastro-pulmonic sympathy were blotted out of the catalogue. Granting that coughs, pneumoniæ, and pleurisies are *always* (and surely this is going far enough) secondary to gastro-enteritè, it matter not one jot. The disease is to be attacked in its new seat, just as though there never had been gastritis or enteritis at all. But the new doctrine denies, or at all events, neglects this practical rule, and treats pneumonia, or bronchitis, by remedies directed to the gastric affection, of which it is supposed to be symptomatic. Thus the time is often lost for quelling the pulmonic inflammation, while trifling remedies are prescribed for the gastro-enteritè! Thus scarcely a day passes in which we do not see patients labouring under cough, quick pulse, dry skin, scanty urine, evening fever, &c., who have been ordered by the physicians to eat nothing but animal food in the most concentrated form—because their cough was *stomach* cough, dependent on indigestion—and because mutton is good for dyspepsia! On examination of the chest, disease of the lungs or membranes are easily discovered—and the mischief is generally irremediable. Such are the effects of the doctrine of stomach-cough. The mistake in the opposite direction can do no possible injury.

3. *The Heart.* We agree with Mr. Parker that the action of the heart is influenced in two ways by disorder of the stomach—by nervous sympathy, and by mechanical pressure. The action of the heart is always increased by food, independently of distention; but the presence of air or acid in weak

stomachs will often cause intermissions of the pulse, and a sense of fluctuation about the heart, which alarms both patient and physician till the real cause is known. Auscultation now clears up the doubt at once.

4. *The Brain.* The vicinity of the ganglia and plexuses in the epigastric region, and the connexion of these with the brain itself, may easily account for a strong chain of sympathies between the stomach and the head. But independent of this, the great sympathetic and par vagum keep up such a direct intercourse between the two organs, that we need not wonder at the fact that, of all organs the brain is most frequently affected sympathetically by disorders of the stomach.

"It is difficult (says Dr. Johnson) to say which is the organ or part that is most intimately linked in sympathy with the stomach and liver. I should say, however, that the brain, as the common sensory, to which all sensations are ultimately referred, is the first to sympathise with disorder of the abdominal organs. Pain in some part of the head is a very common symptom in this class of disorders; but the *functions* of the brain are affected in a great variety of ways—especially its *intellectual* functions. Confusion of thought, unsteadiness of the mind, irritability of the temper, defect of the memory, fickleness of disposition, and many other phenomena which are little suspected of corporeal origin, shew themselves infinitely more often than pain, deafness, vertigo, defect of vision, or affections of mere sensation. The former gradually rise into gusts of passion, fits of despondency, brooding melancholy, permanent irascibility, and still higher grades of intellectual disturbance, till, as sometimes happens, the point of temporary alienation is reached, and suicide terminates the scene. Those functional disturbances of the brain, however, which are evinced in the form of mental phenomena, are very common in *morbid sensibility* of the gastric and intestinal nerves, where the usual symptoms of indigestion and hepatic derangement are almost entirely wanting, and these will be more distinctly alluded to hereafter. In unequivocal disorder of the digestive organs, the affections of sensation about the head most engage the patient's attention. Pains of various kinds, not seldom remittent or intermittent, are felt in different parts of the scalp, about the face, or deep in the head. When purely sympathetic of stomach disorder, they are more frequently in some particular part, than in the head generally, and assimilate in their nature to tic douloureux. Indeed, I have no doubt that this dreadful disease is, in many cases, caused by irritation of the visceral nerves—and the cures which have been performed by alterative and aperient medicines, and especially by the carbonate of iron (which removes the morbid sensibility of the nerves), confirm this opinion."*

The 8th chapter is a long one, tracing the influence of stomach disorder on the origin, progress, and termination of diseases of the liver—which chapter branches out into numerous sections, tracing, or retracing the influence of hepatic disease or various organs and functions. These we find it impossible to analyze—and we must again and again say that our author has become so impregnated with German minuteness as greatly to lessen the value of his work among the busy practitioners of this country. The numerous cases which Mr. Parker has collected from various authors, and related from his own experience, may be perused with much advantage by all classes of readers. There is a section on the influence of gastric affec-

* Essay on Indigestion, 9th Ed., p. 42. 3.

tions in the formation of biliary calculi, which is curious. That we know very little of the causes of these troublesome concretions is confessed by all. They are, as every one knows, very often attended, perhaps preceded by dyspeptic affections; but it is rather hazardous to infer that these last are the causes of the former. There can be little doubt, however, that some derangement of the biliary secretion itself precedes the formation of biliary calculi. Assuming that all disorders of the stomach occasions disordered action in the liver, Mr. P. goes on to say that—

“In most persons dying from gastric disease, or from other diseases in which there is a serious complication of morbid conditions of the stomach, we find the contents of the gall-bladder altered in their character, and very commonly the lining membrane of this organ itself inflamed, softened, or otherwise diseased. In these states the contents of the gall-bladder are generally of extreme viscosity; the bile is black, resinous, adhesive, much thicker than in its natural state, and of a deep-black colour. I have noticed this condition of the bile in almost every instance I have examined after death from gastro-hepatic disease. Similar facts have been noticed by Portal and others.” 162.

Broussais attributes the formation of biliary calculi to an inflamed condition of the liver and gall-bladder. Several cases are detailed by Mr. Parker in support of the doctrine of the gastric origin of these concretions.

The 9th chapter is occupied with considerations on the gastric origin of dropsies. Having shewn that gastritis “commonly precedes diseases in the liver and heart, and, in a great majority of instances, accompanies both,” he thus connects the effusion of serum in the peritoneal cavity with original phlogosis of the mucus membrane of the stomach. By pursuing this plan we shall very soon arrive at the conclusions of the celebrated Abernethy—that all diseases began in the stomach.

We have alluded to the opinion of our author, that the pulse may beat twice to one contraction of the left ventricle. The following is one of the cases in support of this position.

“A young lady, aged eight, after the disappearance of the eruption of scarlatina, was seized with sickness and constant vomiting of food, with pain and tenderness in the epigastrium: the bowels were constipated, the papillæ of the tongue enlarged and intensely red. The pulse was frequent, and had a double beat to each systole of the heart, two pulsations of the artery at the wrist to each single contraction of the left ventricle of the heart. 185.

We have no right to dispute a fact, when related by a credible witness; nor do we suppose that Mr. Parker states here anything that he does not firmly believe; but we must take the liberty to suppose that he was deceived in cases like the above, because it is just as impossible for the artery to beat twice for one contraction of the ventricle, as it would be for a mass of ice to form in the centre of a cauldron of boiling water. Yet Mr. Parker has related six or seven cases of this kind, and avers that he has seen instances where there were three pulsations at the wrist to one ventricular contraction! We would simply ask our author what is the *cause* of the pulse at the wrist? If Mr. P. maintains that it is *not* owing to a jet of blood thrown out of the ventricle, why then we drop the argument. If he acknowledges the causation which he have mentioned, then—“*sublata causa tollitur effectus.*” However, we will not dwell longer on trifles like these, where there is so much to praise in the work under our notice.

We have considerably exceeded our prescribed limits, and must pass over a very long chapter, and several sections on the influence which disordered stomach exerts on diseases of the brain—and in which a great mass of research and personal observation is made to bear on this important topic.

The last chapter (XIII.) is on the treatment of disorders and diseases of the stomach, and occupies only twenty out of 300 pages. This is in keeping with the rest of Mr. Parker's work, which is founded on the French models—all, or almost all, physiology and pathology—very little on therapeutics. With this we do not find fault—quite the contrary. It shows a love of science, and not a tendency to quackery—too often apparent in works of this description. If we were well acquainted with the nature and causes of diseases, we could have but little difficulty in suggesting the treatment of them. Superficial writers dwell largely on the therapeutics, without the slightest knowledge of etiology and pathology!

Our author divides the treatment into dietetic and medicinal. "Of the former enough has been said in the writings of Paris, Johnson, Philip, Abernethy and others, to render a recurrence to it here unnecessary." The medicinal treatment must be suited to "the particular group of symptoms manifested by different individuals." On this plan or principle, he distributes the symptoms into several classes, taking the predominant symptoms which demand chief attention as the type of disease in the class to which it belongs. We shall glance at the principal classes or groups.

1. *Pain and Constipation.*—In such states Mr. Parker condemns drastic and cold saline medicines—and considers leeches and blisters as of little use. He relates a case to exemplify his treatment. A lady had suffered from pain after food for fifteen years, with obstinate constipation. The tongue was red and smooth—pulse frequent—epigastrium not very sensitive. "Leeches and counter-irritants were used to be epigastric region, *without much relief*, but the patient *lost all pain, the bowels were relieved*, and in a few weeks she was completely established by confining her to farinaceous and milk diet, and giving the following medicines:—

"℞. Pulv. rhœi gr. iv., morphiæ muriatis gr. 1-12 M. ft. pil. ter die sumend; c. cochlear. iij. larg. misturæ sequent. ℞. Infus. cascariillæ ʒ vij., magnes. sulphatis ʒ ʒ, magnes. carb. pond. ʒ i ʒ, tinct. aloes, ʒ ss, acidi hydrocyanici ℥xv., tinct. humuli ʒ ij, M. capiat cochlear. iij. larg. ter die. These medicines acted freely, without occasioning pain or any uneasiness. They were employed by the patient for three months with the greatest benefit, occasionally increasing the quantity of morphia.

We may observe that there is some little incongruity in saying that the leeches and counter-irritation did little good, when it seems that she lost the pain. But it is probable that we do not clearly comprehend the sentence, which is rather obscure. Mr. P. informs us that he has seen numerous cases "yield almost magically to the combination he has just mentioned." We heartily wish that other practitioners, may be as fortunate. Let us just observe that the mixture quoted for the lady is not quite an eight ounce mixture, and that more than half of it was daily taken—and we cannot help thinking that seven and-a-half minims of prussic acid per diem is a pretty considerable dose to begin with. To the composition we have

no objection, except that it is not always safe to establish the *habit* of giving morphia, hop, &c. three times a-day in dyspeptic affections. We know many instances where the habit could never be broken, and the patients became little less than opium eaters.

2. *Vomiting and Diarrhœa*.—"In a great majority of instances, both these symptoms are dependent on chronic irritation of the gastro-intestinal mucous membrane of the inflammatory kind." Leeches and blisters, when tenderness of the epigastrium exists, are recommended—purgatives to be avoided—and "mild opiates, antacid or absorbent remedies, as the hyd. cum creta with pulv. ipecac. comp.—a grain or two of rhubarb, with the same anodyne—and the prussic acid, to be administered."

3. *More acute forms, with great epigastric tenderness, and irritability of the vascular system*.—In these forms Mr. P. applies leeches daily in small numbers, with anodyne fomentations to the region of the stomach in the intervals—tepid gruel, or thin farinaceous food—with such medicines as the following:—

R. Acid. nitro-muriat. ℥ xl., morphiæ muriat. gr. ½ ad gr. j., syr. simp. ℥j., aquæ distillat. 3 vij., cap. coch. iij. mag. 4tis horis.

These are the forms which Broussais has taken as a type of the whole series.

4. *Fullness, distention, acidity flatulence, eructations, &c. after food*.—These are the most common symptoms of all, and it is to this group that the term "indigestion" is most frequently applied. Our author thinks that they "mark a condition of the stomach in which active hyperemia, on morbid fulness of blood, not amounting to inflammation, is the pathological character of the disease." In such cases when the stomach is empty the feelings are easy, and the mucous membrane returns to the normal condition. Now as it is the presence of food that causes the turgescence of vessels, we ask if this be not through the agency of the nerves—in other words, it is morbid sensibility of the gastric nerves, which cannot bear the contact of the usual food without pain, and without that degree of excitation which reddens the surface and fills the capillary vessels. Here we are obliged to withdraw all stimulating alimentation, and keep the patient upon the very lightest and most easily digested food. Our author, after cautioning against rough purgatives in this condition of stomach, recommends the following form of aperient:

R. Pil. hydrarg. gr. ij.
Pulv. rhei. gr. iij.
—ipecac. comp. gr. j.
Mucilag. acacia. q. s. ut. ft. pil ij. bis terve in die sumend.

To be taken with the cascarrilla mixture already quoted. From some painful experience in this complaint, we confidently aver that few dyspeptic stomachs will bear the *quantity* above prescribed, granting that the *combination* were the very best that could be imagined.

We are disposed to think that Mr. Parker has underrated the effects of acidity in the stomach. The dyspeptic is generating this acid from morning

till night—and if neutralized by magnesia or other substance this hour, it will be as bad as ever the next. Till the stomach loses this most unfortunate acidifying property, it is necessary to correct the product almost every hour in the day. The effects of acidity in the stomach are not always or even generally, **HEART-BURN**. A host of wretched feelings, both of body and mind, are the ordinary consequences. The bulky draughts and mixtures of magnesia and biters above described, will augment rather than relieve these feelings—and we have found that the bicarbonate of soda itself, in the form of a lozenge, is the very best form for correcting acidity. Shepherd's bicarbonate of soda lozenge; or what is fully as good, and much more reasonable, Ward's (33, Great Russell-street) bicarbonate of soda lozenge, is an admirable antacid. A single lozenge will instantly change the whole feelings of the dyspeptic sufferer, and make him quite a different person. The remedy is necessary many times a day. To Mr. Parker's advice of small relays of leeches to the epigastrium, when there is much tenderness or pain there, we have no objection, the patient being kept on milk and farinaceous diet. Mr. P. thinks that the mucilaginous and acidulated drinks, so much prescribed by the Continental physicians, are too much neglected in this country. We may here, once for all, observe that as the Continental fevers are of a very different type from those of this country;—so are the whole class of gastric complaints. And we venture to predict that our author will find out this difference, ere long, and modify his treatment accordingly. Our author winds up the work with some observations on the principal remedies used in dyspepsia. General bleeding, he observes, can never be necessary or proper, unless acute supervene on chronic gastritis. Local bleeding, on the contrary, is highly beneficial. "The large local bleeding resorted to by Broussais, and the physicians of his school, have been productive of infinite mischief." But why so? Broussais is no fool, nor an inattentive observer. And it would be exceedingly strange if he has gone on for more than a quarter of a century, doing "infinite mischief," with his eyes open! A far more natural solution of the question is to be found in the observation we made just now, namely that the diseases are different in the two countries. And why not? The diet, manners, habits, temperaments—the whole constitution, moral and physical, are totally different on the two sides of the Channel—and so are the maladies. So must also be the treatment of those maladies.

Aperients. These are prescribed on all occasions by some practitioners—and proscribed by others. If doctors had all suffered from dyspepsia in their own Persons, they would not thus fly to extremes. They would have known that drastic purgatives are injurious—mild laxatives beneficial. The morbidly sensible nerves of the stomach and bowels will not bear strong cathartics—neither will they bear the presence of the morbid secretions, and therefore require to be daily freed from them.

"The best aperients that can be used in these diseases are combinations of the pil. hydrargyri with rhubarb or aloes, combined with the pil. galbani co., the extracts of hops, lettuce, or hyoscyamus, or the salts of morphia. Calomel, combined with the pil. aloes comp. and some sedative, is also in certain cases useful. The proportion of the mercurial for each dose should rarely exceed one grain. These remedies, with solution of the neutral salts in bitter infusions,

to which the hydrocyanic acid is added, are the forms of aperient which I have invariably found most useful; they operate freely without pain or uneasiness, and generally afford the patient very marked relief." 296.

Sedative. Great importance is attached to this class of remedies by our author. "In all forms of inflammation, there is mostly an exalted state of the sensibility of the inflamed part."

"The peculiar organization, however, of certain nerves, particularly those of the ganglionic system, and the system of the par vagum, rendered the exalted sensibilities of the mucous surfaces of the stomach and intestines inappreciable by the brain, unless they pass a certain limit. Hence, in some instances, inflammatory disease of these organs proceeds to actual disorganization, without the patient being aware of its existence; whilst, in others, a slight degree of inflammation will produce intense febrile excitement. It is from a knowledge of the peculiar sensibilities of these parts that we may see the great use of sedatives in the treatment of their inflammatory or other forms of disease; and it is, also, from this circumstance, that I never prescribe an aperient remedy in diseased conditions of the stomach without combining it with some preparation of morphia, the hydrocyanic acid, or the extract of henbane. The best sedative that can be employed is the muriate of morphia. In all inflammatory affections of the stomach, this remedy, combined with aperients or with alkalies, or given merely to allay pain or irritability, is of great use. Others, however, may be given according to circumstances, such as the acetate of morphia, the hydrocyanic acid, the liq. opii sedativus, or the extracts of hop, lettuce, or henbane. These are the chief sedatives of use in such affections, and perhaps they answer all the necessary indications. They are generally more useful in combination with alkalies or aperients than when given simply and uncombined. The external application of sedative remedies to the epigastric region, in many painful affections of the stomach, I have found of very great service, whether these affections are primitive, or whether they result from organic change." 207.

Antacids and Absorbents. A favourite remedy of this kind is, a combination of the mist. cretæ, of the LONDON Pharmacopœia, with "large doses of hydrocyanic acid." The ponderous carbonate of magnesia and soda are also recommended.

Tonics. The following extract contains a resumé of our author's remarks on this class of remedies.

"Tonics are useful in many morbid states of the stomach, which may be referred to four classes:—

1. Primitive morbid conditions, resembling inflammatory affections, which are aggravated by an antiphlogistic treatment, or by aperients.
2. States of disease, succeeding to inflammation, which have been benefited by an antiphlogistic treatment in the commencement, but where this no longer affords relief, or adds to the severity of the symptoms.
3. Various morbid states of the sensibility of the stomach. These are occasionally accompanied by intermittent neuralgic affections in other parts of the body.
4. States of general debility, and many local symptoms, as pain, nausea, and vomiting, which accompany confirmed organic diseases of the stomach." 301.

Mr. Parker has not alluded to the nitrate of silver, as a most powerful sedative in morbid sensibility of the gastric and intestinal nerves, although it is fast creeping into use even amongst the cautious German practitioners. The work is also singularly defective in tracing the *moral* cause, as well as

the *moral* effects of dyspepsia—a circumstance that convinces us that the work is founded on Continental facts and foreign doctrines. Yet with these and many other defects which we could easily point out, Mr. Parker has compiled and composed one of the most valuable works on the subject of gastric disorders and diseases that has ever appeared in the English language—or, we believe, in any other tongue. We could not say less—and we need not say more.

PRELIMINARY COMMUNICATIONS REGARDING AN ENQUIRY INTO ARTIFICIAL DIGESTION. By Prof. Dr. *Purkinje* and Dr. *Pappenheim*, in Breslau.

1. ON THE INFLUENCE OF GALVANISM IN ARTIFICIAL DIGESTION.

(From the Archiv Für Anatomie, Physiologie, von Dr. J. Müller, 1838.)

WHEN, in the May Number of last year, we just commenced some preliminary experiments on artificial digestion of the mucous membrane of the stomach, in hydrochloric acid, at 'brood heat*;' and when the residua of muscles, nerves, and nervous fibres given up to digestion, were examined by us under the microscope we were struck every time at finding a great quantity of oblong, knotty, conserve-shaped bodies in company with those organic substances, which at first we could not ascribe to the mucous membrane of the stomach, because we supposed that this, according to the common theory, is a simple mucous membrane only furnished with some scattered glands. It is therefore not to be wondered at that the idea forced itself on us to take these conserve-shaped bodies for a new organic product of the digestive process, as the commencement of a new organization. This however was soon explained, when the mucous membrane of the stomach† was subjected to a strict microscopic examination. For it appeared at once, that those bodies are nothing else but the parenchyma of extremely small, long simple glands, which constitute the chief part of that mucous membrane. After carefully separating the innermost tolerably thick layer of the mucous membrane of the stomach of the ruminantia, or of the simple stomach of other animals, entirely from the subjacent cellular layer, a thing which may be effected in very many parts over which it lies in folds, except the pyloric portion (at which it is firmly united with the middle coat) in large patches frequently several inches square, it was found on closer examination, that this apparently simple mucous membrane is composed of an immense number of very small,

* The reader will excuse the coinage here attempted. We have no term in the language to express the *brut wärm* of the German, by which is meant the temperature of incubation. Certainly an Englishman is as well entitled to coin the term *brood-heat*, as a German is to make the term *brut-wärm*. Besides we have analogy for our new term; we have the term *brood mare*.—Rev.

† The term in the original is *laab-magen*, by which is meant that stomach of ruminating animals in which the runnet is found.

oblong, cylindrical, simple glands, which are imbedded in a perpendicular direction in the surrounding cellular and vascular tissue. This structure may be very clearly perceived by allowing these separated patches of mucous membrane to harden in a concentrated solution of carbonate of potash from 12 to 24 hours, in a gentle heat, where it may then be divided in all directions into very fine, transparent slices, which, when brought under the microscope, show the internal structure of that membrane.

From this investigation it follows that all this apparently mucous layer is glandular throughout, and may be considered as a glandular membrane. The more minute description of its structure in man or other animals is reserved for another place.

If such a portion of the glandular membrane be combined with the proportionate quantity of water and muriatic acid, so as to constitute the digestive fluid, the digestive action is next directed to the solution of the cellular and vascular tissue which hold these glands together, and the glands, which themselves remain undissolved, swim in great numbers in the digestive fluid singly and uncombined, in the form of those knotty bodies. In this simple glandular substance filled with parenchymatous grains the peculiar runnets, material (*Laabstoff*) seems to be contained, on which all the phenomena of digestion in connexion with the other conditions are dependant. Besides those glands constituting the gastric mucous membrane, there are also found separate, scattered, larger glands, which seem to be destined for the secretion of a simple mucus, whilst those glands by virtue of their peculiar glandular substance were destined for the exclusive secretion of the digestive or gastric juice which proceeds immediately from their substance.

After we supposed that in this way we had found the proper digestive principle in this glandular substance, the question arose whether it is of itself sufficient to effect artificial digestion. After the glandular membrane of the stomach was detached as cleanly as possible, it was brought into the brood-heat, partly in the recent state, in various series of quantities, with a constant quantity of distilled water, and with small portions of hard-boiled albumen, in order to observe the action exercised on this latter substance. It was soon discovered that after three hours or more the changes accompanying digestion were not observable in the albumen; on the contrary after from 8 to 12 hours, a very rapid putrid fermentation took place in which it terminated on continuing the experiment for a longer time. Thus the mere gastric substance was found to be insufficient of itself to effect the digestive process. This, it is known, may be accomplished by the addition of small quantities of acid, as for instance, by means of hydrochloric acid. The question now arose by which organic process the hydrochloric acid is set free in the living stomach, and what other acid comes into play during digestion. Our microtomical investigation certainly discovered no separate organ in the stomach, except probably those simple mucous glands, which could secrete the acid required for digestion; it must therefore be those *gastric glands* that immediately take on them the secretion of the digestive mucus and of the acids at the same time. The thought now presented itself whether some process of the nerves similar to that of galvanism may not effectuate this secretion in the stomach. The separation of the acids should then be accomplished, through such dynamic influence, either in the alimentary substances, or in the intermixed saliva and mucus, or in the serum of the

blood contained in the blood-vessels of the gastric mucous membrane, or finally in the gastric substance itself. This observation gave rise to the following series of experiments:—

When in the month of August we set about repeating these experiments with a pile consisting of 30 pairs of plates 4 inches square, in which platina wires were brought from both poles into one and the same glass vessel, no result whatever appeared; where pure gastric membrane came into the experiment putrefaction rapidly took place in brood-heat. The hard-boiled albumen was then either unchanged, or had become dirty and discoloured, or it was, on the application of muriate of soda, considerably hardened. Only once, when wrapped up in a bit of cloth, at the acid pole, it was introduced with pure gastric substance into distilled water, we found that after 12 hours it had disappeared from the cloth, and that it was dissolved in the fluid. The experiments were now changed thus far, that in order to separate the action of the poles, and to produce at the one developement of a pure acid, two glasses were selected, into each of which the mixtures used for the investigation were introduced, and which were connected by a cotton thread moistened with water.

A. In order to ascertain the possible action of the substances entering into the stomach from without under the influence of a dynamic agent, the experiment was first made with saliva, as this even in the natural state of things generally evinces an acid reaction. Saliva was put into two glasses to the amount of two drachms, both were exposed to the action of the galvanic poles, and they were connected together by means of a moist cotton thread. At the acid pole there was a development of chlorine gas quite sensible to the smell. After 24 hours the acid reaction was already so strong, that the saliva had a perceptibly acid taste, and litmus paper was intensely reddened by it. The re-action at the alkaline pole we leave out of consideration, it not being necessary to the purpose of our experiments. By chemical re-agents the acid developed was proved to be hydrochloric acid. Into the acid saliva thus obtained three grains of dried gastric membrane were put, and ten three square bits of dried albumen, and the mixture was exposed to brood-heat. In the ordinary time of digestion no alteration was as yet perceptible in the albumen. The fluid however very perceptible smelt of hydrochloric acid, and subsequently it developed the ordinary acid smell of the digestive fluid. The albumen was not discoloured, nor opaque or of a chalk-white appearance, but it presented its ordinary transparency, a circumstance which left us to expect a possible farther change. Not till after the lapse of 8 hours did we perceive the characteristic transparent edges of the albumen passing into the digestive fluid. The mixture was now again placed in brood-heat, and when examined on the following morning, that is after the lapse of 22 hours, the digestion-edges (*verdauungsrän der*) were advanced to be sure towards the middle, but the angles were not rounded, and in several places the mass was split and almost softened to a jelly. From this experiment it therefore followed, that if a dynamic action, similar to galvanism, takes place in the stomach, the saliva introduced with the alimentary substances is still capable of setting free a portion of the hydrochloric acid necessary for digestion.

b. In the next place it occurred to us to institute a similar experiment with a dilute solution of chloride of sodium, which enters the stomach partly as an immediate constituent, partly as an artificial admixture with the food. As the result however might here be anticipated with certainty, this experiment was not instituted, and the possibility of a similar production of an acid from chloride of sodium, as well as from saliva, was immediately pre-supposed.

c. *Experiment with diluted Albumen.*—Into each glass which was again to be exposed to the action of the poles, three drachms of distilled water with about one drachm of albumen, well mixed together, were put, upon which the action of the galvanic poles displayed itself in the following manner: at the oxygen pole, coagulated albumen collected around the platinum wire in large flocculi, and the fluid in the vicinity of the wire evinced an acid re-action. In the other glass, at the hydrogen pole, the fluid was on the contrary observed to present no appearance of coagulation, being uniformly diluted and thinner than at the commencement. It had a weakly alkaline re-action. After twenty-four hours the alkalinity was very considerably at the latter pole; on the contrary the acid re-action continued at the other, only always in a weak degree, probably because the acid was partly expended in coagulating the albumen. When a portion of this acid fluid was filtered and then tested, it showed evident traces of hydrochloric acid.

d. *Experiments with Mucus.*—Four drachms of nasal mucus mixed no doubt with some saliva were collected, the saliva was then diluted with distilled water, as much as possible, and separated from the mucus. The mucus thus purified, was rubbed up in a stone mortar with about one-half the quantity of distilled water, and about three drachms were then introduced into the glasses which were to be subjected to the galvanic action. The mucus presented the same phenomena as the albumen. At the acid pole flakes of mucus collected around the platinum wire, with several air-bubbles, with a slight acid re-action, so that the wire, from time to time required to be freed from the attached mucus, in order that the other parts of the fluid also, which continued to develop chlorine gas sensible to the smell, might be exposed to the galvanic action. After twenty-four hours the entire fluid presented a tolerably strong acid re-action. Here also the presence of free hydrochloric acid was ascertained. At the alkaline pole the mucous solution was found to be thinner, and gave an alkaline re-action.

e. *Experiments with the Constituents of the Blood.*—It is commonly admitted that on many organic surfaces, as on the inner surface of the uterus, on serous membranes, and on the parts of mucous membranes not furnished with glands, the serous constituent of the blood is separated immediately from this fluid. We do not mean to enquire here how far this admission is correct; it sufficed, however, to suggest to us the question, whether acid separated by this supposed dynamic action immediately on the serum of the blood, and secreted on the surface of the stomach, might not serve as a condition of digestion. Pure human serum, was put into both glass vessels in the same way as has already been mentioned of the saliva. After twenty-four hours the fluid was sufficiently acid at the oxygen pole;

the acid reacted in the same way as the hydrochloric acid. Whether other acids had been developed, was not enquired into; this appeared unnecessary, as other acids, in small quantity, would not have so acted as to prevent digestion. Into two drachms of this fluid the usual quantity of three grains of gastric membrane with three squares of albumen were put in the brood-heat. After a few hours the albumen appeared yellow and discoloured, the edges opaque. The gastric substance was dissolved to be sure, exhibited the well-known, acid (brodsaurer) smell, and no trace whatever of putrefaction, which was probably hindered by the sufficient acidity of the fluid; but the albumen even after twenty-four hours did not undergo the ordinary digestive changes, at the very most it was softened, and discoloured. As a parallel-experiment another glass with two drachms of distilled water, four grains and a half of gastric substance and three drops of hydrochloric acid, with just as much hardened albumen, as before, was prepared, and into this two drachms of serum were put; the entire was placed in brood-warmth. Here the added hydrochloric acid was to replace the acid developed in the galvanic process, and our object is to see whether the mixture of the serum did not exercise a preventive effect on the digestion. After the same interval the same change in the albumen manifested itself, whence accordingly the preventive action of the serum appeared to proceed. It would also appear manifest from this experiment that this presumed secretion and dynamic acidifying property of the serum of the blood cannot yield the acid principle required in natural digestion. This experiment is altogether imperfect, and rests on a basis not at all sufficiently grounded. Nature might still have means innumerable to produce in the serum of the blood that change which could be directly necessary for the process of digestion. It lay, however, in the regular course of our enquiries, and it should not be passed over, though it was to yield but a negative result.

Of the same quality is the following experiment, which was instituted with as concentrated a solution as possible of the red portion of the blood. After a piece of blood-cake was previously washed in distilled water so as to free it of any serum that may be attached to it, it was cut up into small portions, and distilled water was poured over it. Of the solution of the red part of the blood thus obtained, the due quantities, in the same way as has been already mentioned, were exposed to the action of galvanic electricity, and thus an acid fluid was obtained at the oxygen pole. With respect to the contents of hydrochloric acid we still remained doubtful. Experiments with fibrine were not undertaken.

f. *Experiments with the Substance of the Gastric Mucous Membrane* (Laab).—The chief question now to be determined was, whether the proper organic substance of the gastric mucous membrane itself does not contain already prepared the materials, which under the dynamic influence of the nerves set free the acid necessary to digestion. Accordingly some dried gastric mucous membrane of an ox at the temperature of $+18^{\circ}$ R. was finely powdered, and about three grains with two drachms of distilled water, both put into a glass, were exposed to the action of the galvanic pile. The fluid in the one glass soon evinced an acid, whilst that in the other glass showed an alkaline re-action. In the former chlorine gas was evolved.

Into each of the glasses a piece of albumen was introduced at the same time. In this experiment after the lapse of sixteen hours, the edges of the piece of albumen were observed to be transparent in the acid fluid. After eighteen hours the albumen was in a great measure dissolved. The acid fluid re-acted as hydrochloric acid, in the alkaline fluid the albumen was to all appearance unchanged. This experiment convinced us that the substance of the gastric mucous membrane, when placed under galvanic influence, is capable of yielding the quantity sufficient for setting free the acid in the artificial process of digestion. An attempt was now made to obtain the artificial digestive fluid from the mere gastric membrane without the help of acid. Several drachms of acid digestive fluid were prepared under the influence of the galvanic pile, and one portion of it, with albumen, was given up to digestion by itself in brood-heat; the other portion was likewise put into the albumen, and also in the brood-heat, and remained in connexion with the galvanic pile. In the former portion, after the lapse of three hours the edges of the piece of albumen were observed to be transparent, whilst in the other the piece was almost entirely dissolved.

From this it appeared that the acid developed in the gastric membrane is of itself sufficient perfectly to accomplish digestion; but with the help of galvanism the development of the acid is continued, and so digestion follows still more rapidly. It is to be understood that in the latter experiment, whilst the acid pole was introduced into the digesting mixture, the alkaline pole had been at the same time introduced into a similar digesting mixture with a connecting moistened cotton thread. The question now arises—did the digestion follow here more rapidly in consequence of the albumen having been exposed at the same time to the influence of the oxygen pole, and so a greater disposition to solution was in some measure developed in it, or did it follow in consequence of a greater quantity of developed acid from the gastric substance? It might here become the subject of enquiry in what proportion the acid was contained in the first digestive fluid, where the digestion proceeded more tediously, in which case the more tedious progress might be explained from the two small quantity, on which point we require another series of experiments to inform us. It might farther become the subject of enquiry whether so much acid would be developed from the gastric membrane through mere galvanic influence that it would suffice by its excess to prevent digestion; then another series of experiments would be necessary to inform us under what conditions hard-boiled albumen exposed to the oxygen pole could be made more or less soluble in the ordinary mixture. These experiments however do not belong immediately to the present enquiry. It sufficed for the present to have ascertained that the gastric mucous surface itself contains within it sufficient materials to set free the necessary digesting acid under galvanic influence. The question now again arose, whether chlorine salts soluble in water were incidental to the gastric membrane, or were admixed through other secretions developed by this hydrochloric acid under the action of galvanism: It further remained as a subject of enquiry whether the gastric mucous surface free from chlorine salts was still capable, under the influence of galvanism, to set free the quantity of acid necessary to digestion. In this case the chlorine must be contained in an elementary form in the gastric mucous membrane, from which the acid should be formed again by combining with

hydrogen at the galvanic pole. This however may be reserved for further investigation.

From the experiments thus far carried the following results might be deduced:—

1. It is unnecessary to admit a peculiar secreting organ for the hydrochloric acid in the stomach, because, with the exception of the secreting glands of the gastric membrane and the mucus, no separate organ is found for that purpose, as follows from our microtomical enquiry, as must happen for so specific a substance as hydrochloric acid is, and would scarcely be explicable on the hypothesis of mere transudation, as in the case of serum.

2. From our galvanic experiments it follows that the juices mixed with the food in the natural way, the saliva, the mucus, the portions of chloride of sodium and albumen generally present therein, further the serum of the blood which is possibly mixed in the stomach by exudation, but most of all the gastric mucous substance itself, developed as much chloride of sodium, as is required for the digestion of the coagulated albumen.

3. Were the nervous action in the stomach either identical with that of galvanism, or acting in a manner analogous to it, or at least accompanied by a galvanic process, this would seem to be sufficient to account for the development of the hydrochloric acid necessary for digestion, without our being obliged to admit a separate act of secretion for the purpose.

It might now be asked whether this enquiry could be brought to a perfect solution in the way of vivisection by applying galvanism to the nerves which preside over digestion; by this process also the analogy between galvanism and nervous action could either be fully established, or rendered still more doubtful; the further investigation of this matter, however, we defer for a more favourable opportunity.

II. ON THE EFFECTS OF CERTAIN MECHANICAL AGENTS IN THE ARTIFICIAL DIGESTION OF COAGULATED ALBUMEN.

A. Our next object then was to imitate the agents existing in nature which act on the food. To this head belongs first of all the division of the food by the teeth. Three grains of hard boiled albumen were divided into fragments of about $\frac{1}{4}$ " in diameter, and together with the ordinary mixture of artificial digestive fluid (gastric substance, gr. ij., water, dr. ij., concentrated hydrochloric acid. gutt. ij.) were put into a vessel, and for the sake of comparison, three large pieces of albumen, together of the same weight, (three grains) were put into another vessel in a similar mixture, at the temperature of brood-heat: it appeared that after one hour and half the solution was completely finished in the first vessel, whilst in the other vessel even after four hours traces of undissolved albumen were still observable. It seems unnecessary to say more on the further application of this experiment to the ordinary physiological processes.

B. It is usually supposed that, by the contractions of the several muscular fibres of the stomach, the alimentary materials are brought into new contact partly with the surface of the mucous membrane, and partly with the solvent

juices of digestion, whereby the changes and solution of the same must go on more rapidly, than if, the fluid remaining in a state of rest, the surrounding saturated menstruum prevented or retarded the approach of new substances for solution. It was according to the purpose to institute an analogous experiment with the fluid of digestion and albumen, by placing them in constant motion, and noting the time of complete solution. For this experiment we selected a double vessel of tin. Into the space between the external and internal vessel water at the temperature $+30^{\circ}$ R. was poured, and it was corked up; into the internal space two ounces of digestion-fluid with 48 grains of albumen were put. By means of water renewed from time to time, the temperature of the inner reservoir was constantly kept up at 28° R. The entire reservoir was shaken for about $2\frac{1}{2}$ hours, and then presented all the albumen dissolved. In the absence of motion, all other circumstances remaining the same, the solution of the same quantity of albumen follows in about three hours, as we may infer from former experiments.

c. The stomach, more or less filled with alimentary substances, and the digestion-fluid presses partly with its muscular tissue equally on all sides on its contents, whilst this pressure, during respiration, is performed still further removed from the pressure of the atmosphere by the surrounding muscular parietes of the diaphragm and abdomen. It is to be admitted that by such pressure the solid constituents are much more intimately penetrated by the fluids, and are accordingly more acted on than without the same. In order to find a new datum of analogy this calculation gave occasion to the following experiment:—

To a glass of nearly four cubic inches a barometer-tube 28" in length, $1\frac{1}{2}$ in diameter, was fitted hermetically, and six drachms of digestion-fluid with 20 grains of albumen were added, so that the barometer-tube was filled with the same fluid to the stated height.

The pressure of the entire pillar of fluid amounted to $4\frac{1}{2}$ pd. In this case the perfect solution followed in $2\frac{1}{2}$ hours, accordingly much more rapidly than under ordinary pressure. A still earlier, but less exact experiment, in which the albumen contained in a cloth was exposed to slight pressure in the fluid, gave a similar result.

From all this it follows that, in order to conclude from analogy, the pressure of the stomach and of the abdominal parietes on the alimentary materials existing in the digestion-fluid, must form a very important element of the reasoning.

A TREATISE ON THE NATURE, SYMPTOMS, CAUSES AND TREATMENT OF INSANITY, &c. &c. By Sir W. C. Ellis, M.D. Resident Medical Superintendent of the Asylum at Hanwell, &c. 8vo. pp. 342.

IF large practical experience could unravel the mysteries of the brain and nervous system, and disclose the connexion between mind and matter in this sublunary state of our existence, the author of the work under review would have strong claims on our attention. Previously to his residence at Hanwell, he belonged to the asylum at Wakefield, where the sphere of his observation must have been extensive—while the ample field of experiment in the Middlesex establishment must have afforded him all the opportunities which an explorer of the melancholy malady under consideration could wish. But what can be added now to the etiology, pathology, or treatment of insanity, after the numerous works which have been published on the subject? That there is yet much to learn in the investigation of insanity, our author himself acknowledges with regret; but the question is two-fold—are we likely to pry much deeper into the insane mind—and if we are, has the present work enabled us to do so? The author very modestly states as follows:

“Though my attention, from early life, has been particularly directed to Insanity, and a residence in the Asylums at Wakefield and Hanwell, during nearly twenty years, has placed under my immediate care and observation upwards of 2,700 cases, I feel that I have still much to learn. Even if the general view taken in the present work be correct (as I fully believe it to be), patient subsequent investigation will be required to make the picture in all its parts complete. Should I succeed in exciting an interest on the subject at all adequate to its importance, it will soon be investigated by men of more leisure, deeper research, and greater anatomical skill, than myself. If the end be but answered, and the insane benefited, I care not whether it be by the adoption of the plan mentioned in the following pages, or by any other means.” vii.

But from a well-experienced writer like the present, there will always be much gleaned, of a practical nature, that will repay the perusal of all those interested in the management, at least, of insanity. We shall glance very rapidly, however, over the greater portion of the work, because it consists chiefly of a great number of valuable cases and illustrations, which cannot be analyzed.

The first Chapter treats of the nature of insanity, and we are glad that Dr. Ellis (we drop the knighthood for brevity's sake) takes the more rational doctrine that insanity is a corporeal disease or disorder *i. e.* of the brain.

“In carefully looking over the *post-mortem* reports of those whose cerebral organization I have examined, I find that in 154 male patients, 145 had disease very strongly marked, either in the brain or the membranes. Of the nine remaining, two were idiots from birth; one died of dysentery, another of epilepsy: the other five cases had not been insane more than a few months, and died of other diseases. Of the female, sixty-seven were examined; and sixty-two found with disease in the brain or membrane: in the other five, no disease was to be discovered. Two of these were idiots from birth, and, with one exception, the others recent cases.” 20.

The particulars of several of these cases are given. In support of the

opinion that increased vascular action is present at the commencement of insanity, Dr. Ellis offers the following case.

"The deceased was thirty-five years of age, and he had only been insane a few months at the time of his death. On dividing the scalp, a considerable quantity of blood escaped; on removing the dura mater, the whole surface of the brain appeared inflamed, the minutest vessels being highly injected with red blood; the tunica arachnoidea was slightly opaque, in small patches; the substance of the brain was firm; not more than the natural quantity of fluid was found in the ventricles. It will be observed, that in some of those cases no traces of disease in the brain could be discovered. We cannot, however, conclude from this that no disease in the brain existed. We know that diseased action may continue in various parts of the body for a considerable period, and yet not be discoverable by any anatomical investigation. The most skilful anatomist cannot find out by dissection any traces of *tic dolooureux*, cramp, rheumatism, &c. In like manner, a man may have had, for many successive years, attacks of gout, and may ultimately die whilst suffering acutely from the disease, and yet no trace of it having ever existed may be discoverable on the minutest dissection, although, in most instances, it produces, after a time, chalky concretions and distortions of the limbs." 23.

But the author wisely abjures the tenet that the brain is always—or perhaps generally, the primary seat of the *cause* of insanity. The disorder may be in the stomach originally, and the brain sympathising with the stomach, leads to mental derangement. Dr. Ellis need hardly have taken the trouble to combat the absurd notion that "insanity is purely a disease of the mind itself" adverted to by some visionaries—and also by the late Dr. Halloran, though a practical man. Dr. E. next adverts to the *extent* of mental aberration which is necessary to constitute insanity, and to render the individual subject to control. The following opinion is, we think, perfectly correct.

"An individual may erroneously think that he sees various forms and substances, which do not exist except in his own imagination; but as long as his reason is sufficient to correct these false impressions, and he is himself conscious that they have no real existence, he is not a fit subject for confinement. Nay more; even if his reason be not sufficient to correct these false impressions, if they be of such a nature as not to interrupt his ordinary pursuits, or to render him obnoxious to society; as, for instance, if he imagines that he sees and converses with spirits, but is not influenced by them, it would be unjust to lock him up in a madhouse: though it is almost unnecessary to say, that it is of the highest importance that, in both instances, proper steps should be immediately resorted to, before these erroneous impressions have been too much confirmed by time to be incapable of removal. For although in the first instance these effects may be harmless, yet, viewing them but as the symptoms and result of diseased action of the brain and nervous system, which, may, if allowed to continue, cause organic disease; it is evidently desirable to use the most expeditious means to restore a healthy state of action in these organs. But if the diseased perceptions be of such a kind as to render him incapable of the management of his affairs, or to make his conduct injurious either to himself or to others, confinement ought immediately to be resorted to." 34.

In the third, or etiological chapter, our author touches on the subject of hereditary disposition to insanity. Out of 1380 patients, there have been 214 whose parents or relatives Dr. E. ascertained to have been previously insane. In 125 of these cases, no other cause could be assigned for the disease. In 65, there were strong moral causes, in conjunction with this

hereditary disposition—and in 24 there had been blows on the head preceding the attack. Our author indeed considers this last as amongst the most frequent of physical causes. Old age itself becomes a primary cause of insanity—the brain, like some other organs of the body, being the first to give way in function. Loss of memory, defective judgment, diminished powers of reasoning, altered views, &c. are the common precursors of acute insanity.

“By far the most general primary cause of diseased action of the brain, and therefore of insanity, is over-exertion. When the brain has been for too long a time intensely employed upon any subject, it is thrown into such a state of excitement that its operations are no longer under the control of the will: the incipient stage of insanity then commences, a superabundant flow of blood is propelled to the head, irritation and want of sleep are the immediate consequences, and, if proper treatment be not applied, inflammation is the ultimate result. This diseased action, if unchecked, produces diseased organization, or that chronic state of insanity which is attended by congestion of the vessels, the opacity of the membranes, and serous effusion under them and in the ventricles, so generally found in the heads of those who have been insane for any length of time.” 58.

Anxiety of mind, including all the various grades of perturbation, from ecstasitic joy to grief profound, is, perhaps, the greatest of all moral causes. Masturbation partakes of a moral and physical nature—and leads, in many cases, to insanity.

The fourth chapter, on the symptoms of insanity, must be only cursorily noticed. One of the first symptoms is a confusion of the intellectual faculties—the senses appearing benumbed—with embarrassment of speech, &c. As the organic disease advances, we observe torpor of the limbs—indisposition to muscular exertion—with congestion and coldness of the lower extremities—gradual emaciation, till at last, death terminates the automatic existence! The following passage deserves attention.

“Intense abstraction of mind may be considered as the first alteration that is observable in the great majority of patients who become insane from moral causes. The ordinary duties of life are either altogether neglected, or only performed upon the pressing solicitation of friends. After this state has continued for a short time, it becomes necessary, if we wish to arrest the attention of the patient, to speak to him loudly and repeatedly; and when at last he seems conscious of what is said, he appears as if just aroused from a dream, and relapses into the same state of forgetfulness, as soon as the sound of the voice has ceased to vibrate in his ears: his whole air and manner evidently indicate that the inner man is dwelling upon a subject far different from that about which he is being addressed. The general desire to please no longer influences the character, and the dejected looks, and the forlorn dress, sufficiently proclaim that the mind is entirely absorbed in its own contemplations.

This is the period when the alarm of friends ought to excite them to the most active measures: this is the time when the advice of a physician is truly desirable. There is now an opportunity of resorting with success to measures, which will prevent the coming on of a malady, the treatment of which is at all times difficult, and which, if neglected at the commencement, is attended with circumstances the most painful to the patients, and to their friends and too frequently sinks the unhappy sufferers into a state of hopeless wretchedness, from which no remedies whatever seem able to release them.” 107.

When the brain has been affected by derangement of the digestive organs,

one of the most common symptoms is a constant suspicion—the individual always fancying that people are combining against his happiness—especially, some of his most intimate friends. All attempts to reason him out of his monomania are futile. Religious monomania almost always takes the form of conviction of eternal punishment. It is needless to say that such conviction is almost invariably found amongst those who were most moral and religious previously. Among the lower orders of society—such as come into public asylums—our author has found the fear of witchcraft, a monomania by no means uncommon. The patients are very seldom cured. Another curious and frequent form of insanity is a belief that a venereal taint lurks in the constitution. To a patient of this description, bread-pills were administered, and they produced a copious salivation! They were discontinued, and the salivation ceased. Listen to this ye credulous advocates and disciples of Hahneman and Dupotet. Surely if imagination can excite so purely physiological an operation as profuse ptyalism, the same agent may induce the hysterical tom-fooleries of Wigmore-street and ————, where they ought never to have been enacted!

Monomaniacs disposed to suicide have their periods of convalescence and exacerbation—sometimes complete temporary immunity from the propensity. This impulse, in our author's experience, is seldom the result of momentary, but of premeditated determination. The mode of commission having been once determined on, the monomaniac will seldom terminate his existence by any other mode. Thus a man having made up his mind to hanging, may be, for weeks or months, within reach of razors, knives, poison, wells, or ponds; but will not commit suicide by means of any of these; till he finds an opportunity for suspension. This is a fact of considerable practical importance. It has often been remarked that phthisis and insanity alternate with each other. The tendency to suicide not infrequently comes on in the last stage of consumption—and many terminate life by their own hands, when a few days or weeks would have brought them to the final goal! There is a peculiar and sinister cast of countenance to be observed in most suicidal maniacs—and also a peculiar factor about their persons. General despondency and great abstraction, however, are the most common phenomena to be remarked amongst those who are meditating self-destruction. The following passage is curious, and perhaps contains much truth.

"In a state of sanity the various feelings and propensities are kept under control, partly by their mutual influence upon each other, partly from moral causes, and partly from the restraints imposed by society. And where careful education and religious feeling have rendered their due regulation habitual, strong propensities may exist unknown and unsuspected, except by the individual. Now insanity does not create any new class of feelings or propensities. It is, I am aware, a very common opinion, that persons, in consequence of their becoming insane, acquire a new set of faculties, and especially that they become endowed with a great share of cunning. This is quite an error. There is no doubt but that this faculty may be often found very powerfully and actively developed amongst them; but where this is the case, it must have existed in the character previously to the disease coming on. A great number of the patients in public asylums, so far from being particularly cunning, possess no fraudulent dexterity of any kind. The mode in which insanity acts, is to cause an alteration in the mental manifestations and in the conduct, by exciting some to undue exercise, and not permitting others to have their proper influence. Where the passions are

thus over-excited, and the controlling feelings are not in sufficient activity, we have necessarily the results previously mentioned; nor ought they to excite in us any surprise, even when observed in the most virtuous and amiable." 127.

Dr. Ellis tries to account for the antipathies which the insane often take towards their best friends and nearest relations, but not, we apprehend, with complete success. We do not think this estrangement is always dependent on, or coupled with an idea that these friends or relations have been accessory to the restraints imposed on the unhappy patient.

"The bodily symptoms, which occur so frequently in insanity as really to deserve to be considered as characteristics of the disease, are very few. The unhealthy action in the brain and its membranes is visible, rather from the alteration in the mental manifestations, than from any uniform corporeal change. In the early stages it is usually marked by irregularity of the secretions, yet it often happens, even in this stage, that, after it has continued for a short time, no alteration whatever takes place in the pulse, and all the secretions appear to be healthy. This is particularly the case where the symptoms denote only a small portion of the brain to be diseased, and where this disease has come on very gradually, the nervous system seeming to accommodate itself to the change, without being so irritated as to disturb the functions of the other parts of the body. And when the derangement has become chronic, it is a well-known fact, that many of the patients, for years together, enjoy excellent bodily health, and exhibit no marks of disease except mental delusions. It is probably this circumstance, which has led to the erroneous notion that medicine is of no use in all cases of insanity. It is singular that this uniformly good bodily health is rarely found, except in those cases where the hallucinations of the patient are confined to one subject." 129.

Where the mental derangement is general, the bodily symptoms are more numerous, as debility, &c. In most instances there is preternatural heat about the head, quickened pulse, &c. The heat of head is generally accompanied by cold feet—want of sleep—clammy perspiration—peculiar fætor. When this last symptom exists, Dr. E. thinks it invariably denotes organic disease of the brain. We can assure our author that we have distinctly noticed this peculiar fætor in people who have completely recovered from insanity, and who have now been in good health for years. We do not dispute the fact, however, of its being a bad symptom. In all those who died with this phenomenon there was found water in the ventricle of the brain. The fætor may be much relieved by the frequent employment of the warm bath. A great want of nervous sensibility is another striking feature of insanity. Great diseases will progress without their being ever complained of by the patient. The very opposite state of the nervous system, however, sometimes obtains. Great hunger is a striking feature—and strange to say, the very reverse, or total anorexia.

The chapter on idiocy and fatuity need not detain us.

CHAP. VI.—TREATMENT.

This is usually considered the most important part of any medical subject though it will not always be found the most satisfactory—and for the reason stated at the very beginning of the chapter. "It is impossible to lay down any particular plan to be adopted in all cases." Yet it is this particular

plan, which nine-tenths of readers are eagerly in pursuit of, while perusing a medical work on any particular malady! Our author acknowledges that even in cases where the greatest similarity exists in the disease, yet differences in constitution will demand modifications of treatment. In this chapter, however, he has endeavoured to make a classification of those cases in which the same system, modified by individual circumstances, may be adopted.

The brain or nervous system being considered, in all cases, as the seat of the disease termed insanity, the most obvious divisions will be according to the nature of the existing lesions. The subject is then divided into two classes—disordered function, and diseased structure; or incipient and chronic insanity. It need hardly be stated that a cure can only be expected in the first class. Once organic disease of the brain having occurred, palliation of the mental affection is the most that can be expected. In the great majority of post mortem examinations, the traces of vascular excitement are found in the brain—and therefore we may safely infer that, with few exceptions, such as great losses of blood, starvation, &c., an increased circulation is the first pathological condition of insanity, in all cases. The cause or causes of this state, our author thinks, must depend on irritation or over-exertion of the brain itself. In nine cases out of ten, pain is felt in the head, at the beginning. Bleeding and antiphlogistic measures may, for a time, arrest the progress of the malady, but, unless the causes, whether idiopathic or sympathetic, are removed, the malady will not be cured. Nay, copious and repeated depletions often do harm instead of good—and they are too often employed by young practitioners, under the idea that they have common phrenitis to deal with. When, however, insanity is caused by blows on the head, coup-de-soleil, or other similar agents, active depletion is obviously indicated, with all the other antiphlogistics well known in practice. It has been long observed that, when the brain is in a state of inordinate activity, the nervous energy will be found defective in some other parts or functions, they requiring immense doses of medicines to restore the equilibrium.

The MORAL TREATMENT of insanity is next taken up by our author. The first object is to remove the moral cause. But, alas! this is not often in our power. It does, however, sometimes come within our reach—as the presence of some object or objects, that too much excite the brain and mind. Servants, on first coming to a lunatic asylum, are occasionally attacked with insanity themselves, and must be removed.

“When the exciting cause cannot be removed, the patient should be placed in circumstances calculated as much as possible to produce a complete interruption to the train of thought; every object at all likely by association to recall to the mind the painful circumstances, should be avoided; the patient ought to be surrounded with other objects. The usual routine of his habits ought to be broken in upon, and the attention attracted by a change in the little domestic arrangements; and, however painful, he should be at once withdrawn from the society of his friends. If the diseased action be but small, and the attack just in its commencement, I know of no means of accomplishing this more effectually than by sending the patient on an excursion into a fine country, mountainous if possible; the air, the scenery, and the exercise, all have a salutary influence; and the separation is by this means effected without causing any pain either to him or to his friends: but he ought, if possible, to be accompanied during the journey, by an experienced medical attendant; and the physical remedies for the relief of the brain ought to be most carefully attended to.” 191.

Much disappointment has arisen from the want of this precaution. With all our partiality for travelling-exercise, even through the most beautiful and romantic countries on earth, we are compelled to admit that, in our experience, it has had but small and temporary influence on the mind verging towards insanity. It is more powerfully beneficial in the common corporeal ailments—especially in those connected with disorders of the chylopoietic viscera. Where insanity has actually taken place it is needless to observe that separation from friends, and location under medical superintendence, are essential to recovery.

"It is painful for friends to intrust their dearest relatives to strangers, and to run the risk on their recovery of being thought to have acted towards them harshly and precipitately; but unless they are willing to have the best interests of the sufferers sacrificed to a selfish caution and a foolish delicacy, they will not hesitate, however trying, to incur the responsibility of placing them, on the very commencement of the disease, where they will have an opportunity of receiving the best medical and moral treatment: and where they will at least be prevented from inflicting upon themselves, or those about them, any bodily injury." 192.

Many valuable lives are annually lost by this reluctance—natural but unwise—to sever the insane from their friends. But we are unable to dwell longer on this important chapter on the moral management of the insane. It ought to be studied carefully, especially by all those who devote their time and attention to the subject of insanity. We shall conclude with the following extract favourable to the science of phrenology.

"In the moral treatment of cases of insanity, it is of great importance to ascertain the ruling passion of the patient: an appeal to this will frequently divert the attention, and obviate the necessity of having recourse to violent measures. A female, of great firmness, had for several days refused to take food, and as no persuasion seemed to have any influence upon her, preparations were made to inject it by the stomach-pump. At this juncture my wife discovered that the woman had naturally a great love of acquiring. She sat down by the patient's bedside, and without saying anything on the subject of food, conversed with her on her former habits; and having learnt that she had kept cows and poultry, she induced her to give an account of the profits she made by them. This attracted the attention of the woman; she forgot her determination to resist; and whilst talking of the gain of selling the butter, she permitted herself to be fed with a basin of bread and milk, apparently unconscious that she was submitting to the wishes of her attendants. In this instance phrenology was of practical use. The existence of the strong feeling of love of gain was ascertained solely by the observation of the head at the time. Another instance of the power of checking the violent operation of one set of feelings by calling another into action, also occurred to my wife. A patient, who was pruning some trees in the garden, quarrelled with another lunatic, during the accidental absence of the gardener; he became so irritated that he threatened to kill the other. A third patient ran into the house to give the alarm. He met my wife on the way, and she returned with him to the combatants, and desiring to speak with the man who had the knife, told him she was surprised to find a man, of his talents and understanding, so far forgetting himself as to dispute with the other, who, as he knew, had been insane for several years. This gratified his self-esteem. He said, You are right ma'm; I shall take no farther notice of him;—and he at once became quiet." 221.

In this unpretending volume will be found a vast deal of highly important and useful practical information.

THE NATURE AND TREATMENT OF DISEASES OF THE EAR. By Dr. *William Kramer*. Translated from the German with the latest Improvements of the Author since the last German, Edition, by *James Risdon Bennett, M. D., &c.* London, Longman, Orme, & Co. Pp. 306.

ONE of the uniform results of civilization, with its attendant increase of wealth and population, is the minute division of labour, and the breaking up into the smallest fractions the pursuit of every art and science. Thus medicine, which as a science grasps all that relates to the human organization and its injuries, was first broken into two grand divisions—medicine, and surgery. These in the present day are again subdivided into almost as many parts as there are diseases or evils to which “the flesh is heir.” It is worthy of remark also that these minute subdivisions obtain much more in surgery than in medicine, and increase in proportion as we descend to those branches in which manual dexterity, rather than mind, is most called into play. In the higher paths of the art, although a surgeon’s reputation may be great and apparently referable to a particular class of operations, yet it never happens that he does not also practice every other, and generally with equal or distinguished talent and success. As we gradually descend, however, to oculists, aurists, dentists, &c., that general professional ability disappears—the *science* merges into the *art*, until we come to the dentist and aurist, who are nothing more than dentists or aurists—clever workmen in a mechanical art, with only the local science appertaining to their branch of occupation.

This order of things, while it produces some beneficial results presents many disadvantages. If, with the general knowledge and scientific attainments required for the efficient practice of medicine in its comprehensive sense, the attention is *subsequently* devoted to any one fraction or branch of the science exclusively, there is little doubt but that such concentration upon one point is calculated to effect the most important and valuable results. The greatest manual dexterity is only one of the most obvious. Tact and power of discrimination, in all that relates to the point in question, increased knowledge of the functions, nature, and structure of the particular organ or part so constantly and intently studied, are still more important, tending to increase the general stock of pathological and physiological knowledge, and by improving a part, lead to the gradual perfection of the whole art or science.

On the other hand, the very nature of such study, limited and concentrated as it must be, tends injuriously to contract the views, by drawing the mind from the general and more comprehensive contemplation of the whole frame and system, with its almost infinite collateral relations, so essential to a due appreciation of the disease of any part. This tendency will act more or less even upon enlarged minds; and where previous study has not given habit of comprehensive reasoning, the inevitable result must be the practice of many important branches of surgery as mere mechanical arts. When we reflect that the branches which most habitually fall into such hands are those which relate to the senses, and upon the perfection of which the com-

fort and usefulness of a life depend, it is worthy of serious consideration to which side the balance inclines—to injury or benefit. It leads also to a practical question of the highest importance—the degree of protection which it may be desirable that every legislature should afford to the community. Whether it be not incumbent upon law-makers, in all nations, to require proof of general scientific attainments fitting the possessor to practice *every* branch of the profession, before he be permitted to devote himself to any *one*. In our opinion this ought to be a *sine quâ non*, a fundamental principle in all legislation upon the subject. The divisions in practice, by which individuals limit themselves to a peculiar province would then spring legitimately from the wants and interests of society—be regulated and controlled by them, and would not as at present, be determined by the interest of the individual alone, often in opposition to that of the community. The public and the profession would alike benefit—there would be fewer of these subdivisions—those which existed would tend to improve the art, and when we gave our ear to an aurist, we should be protected from the chance of deriving mischief instead of benefit from the operation—an accident which, if we may believe these gentlemen themselves has not seldom happened.

These reflections have arisen naturally from the perusal of the work before us, which at once illustrates some of the advantages and the disadvantages described. Here we find overdrawn distinctions without important differences—little things made great by the undue importance lent to them, and a portly volume instead of a small octavo. We find in this work, however, ample evidence that both the original writer and the translator possess the scientific attainments already described as essential to the proper study, practice, or improvement of any branch, and the joint result of their labours will be found to form a step of great importance in the advancement of our knowledge of the nature and treatment of this class of diseases.

The author says in his preface, "that the work before us is no longer a fragment—a work on the important Chronic Forms of Diseases of the Ear; but an exposition as complete as possible of Systematic Acoustic Medicine." It is divided into two parts. The first commences with a critical survey of the literature extant on the subject, and an inquiry into the general pathology and therapeutics of diseases of the ear, pointing out the errors, ancient and modern. The second part gives a comprehensive system of all diseases of the ear, arranged according to the structural alterations of the parts of the organ affected—illustrated by various cases, and concluding with some observations on ear-trumpets and deaf-dumbness.

The history of acoustic medicine is reduced to a wonderfully small compass; from the first dawn of medical science, in the time of Hippocrates, down to our own times, little or nothing was known of the diseases of the ear. Tho author says—

"For more than a thousand years, these crude empirical principles of Galen maintained undiminished and entire authority. The inestimable anatomical discoveries respecting the ear, that were made towards the end of the fifteenth and in the first half of the sixteenth century, by Achillini, Berengar, Vesalius, Ingrassius, Eustachius, Fallopius, Casserius, and others, had not the least influence on the pathological and therapeutical views of the practitioners of that period." 6.

The whole practice seemed to consist of the application of aromatics and

violent stimulants to the external organ. Mercurialis, who wrote in 1591, and whose treatise obtained for a time great celebrity, "recommends earnestly" the practice of holding a child up by the heels and shaking him, to dislodge a foreign body from the ear—and tying a man on a plank with the ear affected to the board, that he might be well and conveniently shaken! We need not therefore go further as regards the 16th century.

Fabricius Hildanus, who published in 1646, was the first to investigate these diseases, but seemed to direct his attention to the external meatus only, and its morbid states. He invented the first *speculum auris*. Bonet, thirty years later, has the enviable distinction of giving examples of how "dissections of the internal ear should *not* be made." Du Verney, who published towards the end of the 17th century, was the first who contributed essentially to the improvement of our knowledge of the ear—for he alone began by a minute study of the anatomy, structure, and function of the organ. This was a great step, and although he may have fallen into some errors in his pathological deductions, we by no means agree with Dr. Kramer in the blame he would attach to him, even supposing it to be correct that "his pathological views seem altogether confused." After floundering in the dark some twenty centuries, surely no small degree of praise is due to him who first finds the right road, and even advances considerably in the path. It is too much the custom for modern writers to arrogate to themselves exclusively the whole merit of the present state of any science they may have improved, wilfully closing their eyes to the fact, otherwise sufficiently obvious—that they have merely made a few steps in advance of a great many which had been made before them by those who preceded, and under much less advantageous circumstances. Thus Dr. Kramer's labours have been founded upon the important series of anatomical discoveries which had their commencement in the 16th century:—upon the pathological labours of Itard, Deleau, Abercrombie, &c.

It is a curious circumstance, that the discovery of the Eustachian tube had taken place nearly two hundred years before it was turned to any account, and then, more strange still, by a post-master of the name of Guyot, who injected his own to relieve deafness. This, by far the most important step made in the investigation and treatment of diseases of the ear, seemed never to have entered into the contemplation of the aurists. Self-interest gives a wonderful keenness to all the faculties, and the post-master, who evidently must have obtained a considerable degree of anatomical knowledge, was enabled to seize upon a relation between the anatomy and the diseases of the ear, and devise a method of treatment which for two hundred years had entirely escaped those whose peculiar study it was.

"Notwithstanding the great imperfection of Guyot's method; that is to say, notwithstanding the introduction of the instrument through the mouth, a plan now altogether abandoned, and replaced by the more correct method of introducing it through the nasal fossa, Guyot's discovery still forms an epoch in the history of acoustic medicine; for it has afforded a fixed, and indeed a most sure basis, for understanding and treating diseases of the middle and internal ear." 10.

After enumerating many authors of the 18th century, the author comes to the conclusion that—

"With all these defects in the best literary productions of the time, the

treatment of acute diseases of the ear was tolerably successful in ordinary practice; the more evident general therapeutical indications were adopted with success, patients were treated by antiphlogistic remedies, both general and topical. But, towards the close of the eighteenth, and at the beginning of the nineteenth century, the information of physicians did not extend beyond acute diseases; of which Lentin's unsuccessful attempt to advance to the knowledge of chronic diseases of the ear, affords the best proof." 11.

After dealing in the most summary manner with authors of the 19th century, German, Dutch and French, the English are reviewed, and certainly do not pass muster; of Curtis—he says

"From whom, as the head of a large institution for the treatment of diseases of the ear, verily better performances might have been expected. Curtis treats every discharge from the ear, exclusively, and in a summary way, by means of astringents; obstruction of the Eustachian tube with emetics, and perforation of the membrana tympani; whilst, in spite of all the entreaties of Saissy, he has never once practised catheterism of the Eustachian tube on the living subject. He makes tinnitus the chief symptom of nervous deafness, which he treats with purgatives, especially calomel, as long as the strength of the patient holds out. In all doubtful cases his chief attention is directed merely to ascertain whether the liquor Cotunnii be partially or totally deficient!! or, whether hardened wax exist in the meatus."

"In the otitis of children he sticks opium into the affected ear, &c.; so that throughout all his writings, nothing but the most crude empiricism is to be met with; and yet among his compatriots, as well as abroad, Curtis generally possesses the reputation of being a distinguished aurist." 17.

At last the writings of Itard and Deleau appeared, and seem to have formed an era in acoustic medicine.

"Itard has unquestionably the merit of having treated diseases of the ear more comprehensively, more methodically, and with more critical acumen, than had ever been done before." 21.

Deleau's industry only extended to the diagnosis and treatment of diseases of the middle ear.

So much for the "*critical literary review*" which may be summed up in one sentence. It is only of very late years that any valuable knowledge has been obtained of the diseases of the ear, and their treatment. Itard and Deleau, by their works and practice, threw considerable light on the subject, Du Verney, chiefly by his anatomical labours, having led the way. The condemnation of all writers is so sweeping that the literary history resolves itself very nearly into a history of dates.

The object of the whole work is thus defined by the author.

"It has also been my endeavour to arrange diseases of the ear in a more natural manner than has hitherto been done; to refer them to definite organic alterations of the constituent parts of the ear; to avoid all hypothetical and speculative assumptions; and to establish the diagnosis of each form of disease by the *exposition of objective symptoms, independent of the ever doubtful accounts of the patients, and on this sure basis to establish a plan of treatment as simple and certain as possible.*" 23.

The anatomy of the ear we are told has reached an "almost unexampled state of perfection"—while the efforts to discover and establish the physiological importance of the particular constituent parts of the ear have been vain. This statement seems at variance with the general tone of

the work, which leads to the conclusion, that acoustic medicine has arrived at a considerable degree of excellence—for it is an axiom which hardly admits of dispute, that the pathology of an organ cannot be thoroughly understood until its physiology is well and accurately known.

It appears also, that whatever be the disorder, whether organic or functional—acute or chronic—in the external, middle or internal ear, there is one single symptom indicative of all without exception, and even “whether these diseases have their seat originally and exclusively in the ear, or whether the latter suffer sympathetically from the affection of some other organ.” And here seems to lie the chief difficulty, for it not only is a universal symptom, but often the one only—defective hearing.

On the progress of these affections. Dr. Kramer observes, that diseases of the ear are disposed to run a chronic course unattended by fever—they are but very rarely truly acute.

“On an average, not more than two out of a hundred patients labouring under diseases of the ear will be found, whose disease assumes a really acute character. The rest all labour under forms of disease, which have from the first been of a chronic character, or such as are attended originally by a slight inflammatory excitement, which, however, soon merges into a morbid secretion from the affected parts, and assumes a purely chronic form. The reason of this peculiarity depends on the solid structure of the ear, composed of bone, cartilage, and membranes firmly stretched over these, and which is but sparingly supplied with cellular tissue, and with an equally small proportion of blood-vessels.” 31.

“Yet it is of the utmost importance to know, that diseases of the ear, admit of a *very certain diagnosis*, (not indeed according to the usual old established mode,) that in general they run a very chronic course, and that under the influence of these two circumstances, *they are almost all curable*, if the treatment of them be only undertaken in proper time, and with the proper remedies.” But this right moment of time is, to the great prejudice of the patients, (partly from their own faults, and partly from that of ill-informed practitioners,) almost always neglected, and thus the disease is, artificially and quite contrary to its nature, rendered incurable.” 35.

“The degree of the dulness of hearing, the age of the patient, and even the length of time that the disease has existed, of themselves afford absolutely no prognostic data. But the degree of organic change and of functional disturbance to which the disease has attained, are indeed of the greatest importance.” 36.

Organic diseases of the ear are in general both cured and prevented from recurring after being successfully cured, with more certainty than functional diseases of the same organ, the causes of which are more difficult of recognition, and their progressive influence, and their renewal, much less under our control than is the case with organic diseases.”

“My opinion regarding the curability of diseases of the ear in general, (their individual curability will be considered in another place,) is founded on the results of 300 cases, as they have been recorded in my journal according to the order of time in which they occurred, without any selection, and after having been investigated in the most careful and complete manner.” 37.

“Of these 300 patients, 104 were found to be quite incurable, incapable of being at all relieved, and with the treatment of which, therefore, I took no trouble; the proportion of these, therefore, is one to three. On the other hand, 188 were either completely cured or relieved by the treatment, whilst only eight of those who were actually put under treatment, were obliged to be left unrelieved, in spite of all the pains and care bestowed.” 38.

This we think by no means a favourable statement of the art. Out of 300.
No 73.

one third are altogether hopeless; and even of the other two-thirds, of which the majority are classed as "cured or *relieved*," we are not told how many are *cured*, and if only *relieved*, by Dr. Kramer's own opinion, they must be supposed to relapse.

The author doubts whether lues acts in any specific mode in producing diseases of the ear, stating, that he has never met with any confirmative observations, either in his own practice or in that of others. In more than one case we have traced a direct connexion, where lues affecting the head has undoubtedly produced disease in the ear—the throat has however been more or less affected. We are not prepared, therefore, to maintain its *specific* character.

The remedies which have been, or now are most in vogue, are elaborately examined, after being divided into remedies of local action, and remedies of general action. Of these it may be said as of the authors, they are nearly universally rejected by Dr. Kramer as more or less injurious or inefficient. And indeed remedies can only be rendered of value by the knowledge which dictates their use; if that is defective, it must be a very happy chance which allows their use to be productive of benefit.

Thus of the local remedies most resorted to, the says to electricity can only be attributed one case of cure. Saissy limits its use to incomplete paralysis of the auditory nerve. Itard and Deleau, Dr. K's two great authorities says it has no beneficial influence. "Electricity and Galvanism are utterly useless, and not free from danger, by their debilitating action on the auditory nerve." And in support of this conclusion there is a most formidable mass of evidence brought forward.

Moxa and actual cautery in any point of view, are held to be too powerful for the auditory nerve. Blisters and tartar-emetic ointment applied behind the ear, are described as often useless, sometimes injurious, and only indicated in topical circumscribed inflammatory affections of the meatus and of the membrani tympani.

Issues have never appeared to exert any essential beneficial influence on the diseased ear.

"*Of Setons*—in the neck the same holds good as of issues; there does not exist a single case in which these have been made use of with undoubted advantage in diseases of the ear, and in which, at the same time, the affected organ was carefully examined, where the same result would not have been obtained by milder and more certain methods; whilst all those patients that I have seen who had worn setons, have unanimously described their influence on the aural disease as injurious." 57.

Of Douches, he says, there is no kind of disease of the ear that affords a rational indication for douches to the external meatus, whether of water or of vapour. Drops and injections, especially those of an acrid, spirituous, irritating class, are all highly injurious. Warm fomentations, injections of warm milk, the vapour of elder and camomile-flowers, &c., are mere playthings, "by which the patient is amused" (?) but mild as they are, if used very hot, capable of inflicting serious injury.

Leeches.—"Topical bleeding is only called for in acute inflammatory affections of the ear, and then indeed in the most urgent manner."

Remedies of general action the author defines as those which, by modifying the vital action, and altering the degree of power throughout the whole

system, are intended to re-act beneficially on the affection of the organ of hearing, and he enters into an enquiry of the efficacy of Russia vapour-baths, salt-water baths—emetics, purgatives, general bleeding—salivation, and arnica flowers. And speaking of them all collectively, he says, with very few exceptions, it is in vain to expect from them any beneficial reaction. And, in conclusion, adds by far the greatest number of diseases of the ear, are of a simple nature and not accompanied by general diseases, which stand in any intimate connection with the aural affection.

The table with which this critical review of authors and remedies concludes is both interesting and instructive. It shews (as far as the small number, three hundred, will permit) the frequency and degree of curability of different affections under Dr. Kramer's treatment.

The second and by far the most valuable part of the work treats of the diseases of the ear, with Dr. Kramer's views on their nature, seat and appropriate treatment. They are divided into three classes;—Diseases of the external; middle; and internal ear.

The first belongs especially to the periods of childhood and youth, and those described as relating to the auricle are not peculiar to it alone—such as erysipelas, furuncula, &c. With reference to diseases of the meatus externus, we find that

“Deviations in the quantity and quality of the cerumen are generally unimportant attendants on other diseases of the ear, but very seldom exist independently, and then exert no important influence on the function of the organ.

Diseases of the external meatus fall also under the class of inflammatory diseases; though they very seldom assume an acute, but almost always a chronic form; which form they very readily pass into, even when at their onset they are acute. As the auditory canal is especially active in childhood and youth as a secretory organ, but, as with advancing age, the supply of fluids to this part gradually diminishes, the diseases to which it is subject are of necessity especially frequent in childhood and youth; whilst manhood and old age are particularly subject to diseases of the middle and internal year.” 95.

After a startling enumeration of diseases of this not very complicated part of the organ of hearing, we come at last to the gratifying conclusion that “all diseases of the auditory passage depend on inflammation of its organic constituent parts.” Now as these organic constituent parts are not more various than in nearly all other parts of the human body, we cannot see any necessity for elaborate classification, and holding all unnecessary complication to be a great evil, we are inclined to think, as far as we can judge from our own knowledge, enlightened too by a careful perusal of Dr. Kramer's labours, that aurists are addicted to many nice distinctions without a difference, and leading to no good practical result. In the hundred pages devoted to the diseases of the meatus externus, we see room for at most but two classes. Inflammation of the canal—and inflammation of the membrani tympani, and we are further led to believe that the one is little likely to exist to any extent without the other, and consequently that even this division is of little practical importance. The treatment for both being the same, or varying only in proportion to the degree of inflammation.

We shall not follow our author therefore into the recondite labyrinths and nice distinctions of erysipelatous inflammation of the meatus—inflammation of the glandular structure—of the cellular tissue—of the periosteum

of the meatus, &c. &c.—distinctions, we shrewdly suspect, much easier to describe on paper than to establish in practice, setting aside their inutility. This refining tendency is characteristic of our German colaborers, at one time leading them into the unfathomable mysticisms of Kaut, at another, when combined with less intellect, into the infinitesimal absurdities of homœopathy.

Nothing can be more simple, we had well nigh said uniform, than the treatment adopted by Dr. Kramer in these variously described diseases—treatment, which we collect, rather from the cases furnished in great profusion, than from his descriptions, which are by no means clear, definite, or easily seized and classed. Cleanliness, effected by frequent syringing of warm water; when the inflammation leads to excrescences or sprouting granulations, pressure by slips of dried sponges, and a weak injection of the acetate of lead in solution, are recommended—if polypi exist of the pedunculated class, they are to be cut away and the acetate of lead applied to the roots or lunar caustic—the last remnant of the root, however, is usually extremely sensitive to the action of the caustic, and success very rarely follows. The solution of the acetate of lead increased to gr. x. to ʒj. of water, sometimes acts better than the caustic, and after it has failed. Cases of polypi, which have a broad base, are considered well nigh hopeless. As little can be done for the elevations of the glandular structure occurring in the vicinity of the glandular growth, they must as yet be considered irremediable. “If the swellings in the meatus externus be spongy, broken up, and vesicular, no other means than the sponge compress is required, small smooth slips of which are introduced, and allowed to remain for twenty-four hours. In these, as in other elevations of the glandular integument, all emollient, mild, oleo-mucous remedies, fomentations, Russian vapour-baths, and the like, are injurious: they only increase the congestion of the morbid parts, and augment the secretion and relaxation. If the glandulous integument be swelled without being broken up, “there is nothing more efficacious than a solution of acetate of lead (gr j.—x. to the ʒj. of water) dropped into the ear three or four times a day, after the meatus has been previously syringed out with simple water.”—“In more severe cases it is also necessary to rub in tartar-emetic ointment behind the ear.”—“If the patient be plethoric and accustomed to high living, and the discharge from the ear very abundant, he should be put on a spare diet, and be well purged several times a week with saline purgatives.”

In these directions, with trifling variations, are comprised all the most important features of the treatment adopted by Dr. Kramer in the whole of the diseases of the external ear; the form of ointment, he remarks, is not desirable—“the glandular structure does not bear well greasy applications.”—“Blisters, when any derivation is necessary, are far too feeble in their action, and at the most do not affect what is accomplished by tartar-emetic ointment. Leeches are quite superfluous, and for bleeding and a general antiphlogistic treatment, in catarrhal inflammation of the ear, there is not the least indication.”

In a case immediately following, however illustrative, we presume of inflammation of the glandular structure of the meatus under which heading it appears—“Four leeches were applied over the mastoid process, an emetic and warm almond oil dropped into the meatus”—improving the patient's

hearing, and a weak solution of acetate of lead, we are informed completed the cure.

Under the same head we find another case of a child presenting "a discharge of a strongly and offensively smelling purulent fluid mixed with streaks of blood from both ears," relieved and cured "by careful diet, a due regard to the evacuation of feces, an injection of acetate of lead gr. iv., ad aquæ ʒij. thrice daily during four weeks, and then substituted by pyroligneous acid ʒij. ad aquæ ʒij."

In cases of phlegmonous inflammation tending to suppuration, the same treatment as that which is universally adopted, wherever the inflammation may take place, is recommended—leeches, poultices, &c., with the addition of warm almond oil occasionally dropped into the ear. Dr. Kramer and his translator are rather at issue on one point—the author never observed ear-ache without evidence of inflammation either of the meatus or of the membrana tympani while Dr. Bennett is not prepared, and we think with reason, to deny the existence of a nervous otalgia. In polypi of the membrana tympani radical treatment rarely or never succeeds. In acute inflammation of that membrane—the chief diagnostic sign of which seems to be pain and febrile symptoms; the antiphlogistic treatment finds favour, and the acetate of lead is forbidden.

"If, however, inflammation has seized on the whole extent of the membrana tympani, if it be very painful and swollen, and the patient feverish, ten or more leeches should be put on around the ear, emollient poultices applied, warm almond oil dropped into the ear, and powerful saline purgatives given. Solution of acetate of lead is here quite improper; it only favours the thickening of the membrane."

"Should, however, a muco-purulent secretion have been already established, with or without the destruction of the membrana tympani, next to tartar emetic ointment, solution of acetate of lead, dropped into the ear, is the remedy from which we may expect the most powerful assistance." 152.

The perforation of the membrana tympani and the various instruments devised for that purpose are discussed; he prefers Hinly's punch, which removes a circular portion, or if the membrane be cartilaginous, an instrument with two cutting barbs invented by Deleau. This operation is only indicated when the deafness arises from the thickness or disease of the membrane, and that only—it being distinctly contra-indicated when there is co-existent alteration of structure in any other part:—thus speaking of the operation he says:

"When the membrana tympani is only slightly thickened, that is, without cartilaginous degeneration, it readily yields to the pressure of the instrument, and a hand whose sense of touch is delicate, distinctly perceives when the opposition of the membrane is overcome. A drop of blood flows from the small wound; and occasionally the patient feels languid, and disposed to faint. Should a puriform mucus flow from the opening, and a similar matter be remarked on the punch, the cavity of the tympanum is diseased, and the affected ear cannot be expected to derive any benefit from the operation. In this case, either the diagnosis has been incorrect, or the operation has been undertaken on false grounds." 161.

Under the head of "diseases of the middle ear," we do not meet with so many fine drawn distinctions—they are thus defined:

"Under the title of 'Diseases of the Internal Ear,' Saissy has included every disease of the ear, with the exception of those of the auricle, and of the meatus. This, however, is improper, as the diseases of the cavity of the tympanum, and of the Eustachian tube, not only arise quite independently of those of the labyrinth, but also require a very different, and even opposite, plan of treatment. For these reasons, and for the sake of affording a more convenient view of them, I include among diseases of the middle ear, those only which occur in the cavity of the tympanum and in the Eustachian tube, and which are accessible, at least to our means of diagnosis, during the life of the patient, if not to our curative efforts." 187.

"Inflammation of the mucous membrane of the Eustachian tube, and of the cavity of the tympanum, with its various terminations and *sequele*; together with inflammation of the cellular tissue, situated beneath each of these membranes, are the only diseases that can be distinctly recognised, and these, therefore, are alone inserted here."

"It would be perfectly useless, on mere theoretical grounds, to attempt to separate diseases of the Eustachian tube from those of the cavity of the tympanum; for they present no peculiar marks by which they can be distinguished, which from the intimate connexion between the Eustachian tube and the cavity of the tympanum, must be the case. But if any such separation could be made, it would be void of any practical utility; for the diseases of both always require one and the same plan of treatment." 188.

The best mechanical means of investigating and treating diseases of the Eustachian tube and cavity of the tympanum are described at length, from which we learn that Dr. Kramer prefers, in catheterism of the tube, the inflexible silver catheter, with a well rounded extremity, six inches long, varying in calibre from a crow quill to that of a large goose quill, and curved only to the distance of five lines from the further extremity, exactly at the angle of 144° , so as to correspond with the lateral situation of the mouth of the Eustachian tube. He objects decidedly to elastic catheters, which Deleau and other aurists have recommended. He introduces the instrument through the middle meatus, and has practised the operation in "many hundred patients, on the whole many thousand times," proving that, with a fair degree of manual dexterity and knowledge, the difficulties are not great.

"If the air-douche is now to be made use of for the investigation of the middle ear, the patient sits close to a table, on which he leans the elbow of the affected side, and with the hand of the same side, lays hold of the tube of the air-press, which must previously have been charged. The operator is then to introduce the metallic tip of the tube into the funnel-shaped extremity of the catheter, and place his own ear close to that of the patient, which is to be examined; and having opened the cock of the machine, he listens to the noise which the condensed air makes in rushing into the ear of the patient. It would be quite out of place here, to describe the modifications of the sound thus heard, as the results of careful observation on this subject can be detailed, only along with the diagnosis of particular diseases of the middle and internal ear. I may simply mention here, that if the Eustachian tube and the cavity of the tympanum are completely free and open, the air rushes in unrestrained, and strikes with an audible shock against the *membrana tympani*. When the first shock of this forcible stream of air is over, or if it has not been so powerful, there is heard from the continued stream of air rushing into the ear, a blowing and rustling, which appear to issue from the external meatus, and fill the whole ear of the patient. All deviations from this noise (the peculiarity of which can be rendered

clear and comprehensible, only by repeated observation) are morbid, and afford very certain conclusions as to the particular diseased changes in the organic and functional condition of the ear. Should no air at all pass up to the membrana tympani, a catgut bougie should be introduced into the Eustachian tube, which we should try to push up to the membrane tympani." 201.

At page 195 the author says, speaking of aqueous injections, "they are attended with great difficulties and defects, of which I have been abundantly convinced by repeated experience." Then follows, under five heads, an enumeration of these difficulties, defects, and even dangers. Some 30 pages further we find the following passage.

"Till within the last few years, I also have made use of the water-douche with the greatest advantage and success, as will be evident from numerous cases to be detailed. And I must still declare my opinion that it is extremely useful in this affection, and cannot at all concur in the exaggerated and imaginary objections which Deleau makes to it. Nor is it attended by danger; on the contrary it is advantageous to dissolve a little common salt in the water which is to be injected." 213.

It is difficult to discover what may be the Doctor's real opinions, the two here quoted being so completely at variance with each other; we strongly recommend *consistency* of opinion in the same book at least. In a subsequent paragraph the air-douche is given the preference from its facility, cleanliness, &c.

The middle ear we find liable to inflammation of its lining mucous membrane, the most common consequence being an accumulation of thickened mucus plugging up the Eustachian tube and leading to deafness with thickening of the membrane; when carried to great excess, either obstruction or obliteration of the canal may ensue. For the former disease Dr. Kramer relies upon the forcing a volume of condensed air to the membrane from the opening of the Eustachian tube, or a stream of water by the same means, by which the mucus is dislodged, the parts cleansed, and the disease gradually diminished. In the increased degree of stricture, a catgut bougie is used to dilate, passing it through the catheter; for obliteration there is no remedy. If there be inflammation of the fauces and adjoining parts, that ought first to be treated—the middle ear being lined by a continuation of the same membranes.

With respect to the symptoms of these forms of disease, deafness more or less complete is the only one constant—the catheter and the stream of air passing through it, afford the only means of arriving at an accurate diagnosis.

We cannot however avoid calling in question the truth of Dr. Kramer's conclusion, in opposition to obvious analogy, when he says:

"Nor does the nature of the disease become in the least changed, in course of time; it is, and continues to be, an accumulation of mucus, however long it may exist. It never passes spontaneously into stricture or obliteration of the Eustachian tube, if no more acute inflammation again attack the mucous membrane. It is for this reason that I have separated stricture and obliteration of the Eustachian tube, from that condition which consists in its engorgement from mucus, and have considered the former as distinct, independent diseases, by which means their diagnosis is also rendered more clear." 206.

In this, which is called the catarrhal inflammation—

"The prognosis is altogether favourable; even when the disease has been

neglected, and has become firmly rooted, from having lasted for years; a complete cure, or very material improvement, may be effected by submitting the patient to a proper plan of treatment." 207.

When the disease is confined to the ear, Dr. Kramer concludes that general treatment can produce little benefit. And indeed it is evident throughout that the treatment relied upon in these affections is nearly entirely topical, the efficacy depending upon the judgment exercised in the selection, and the dexterity of the application of, a very limited number of remedial agents. The following paragraph distinctly enforces, as a general principle, that—

"All remedies that act generally, and which are employed for the sake of carrying into effect the causal indication, should be rejected; for this reason also, that, in order to act on a very isolated organ, to which we have easy, immediate, and certain access, they must commence their action from a great distance, and place the whole organism (in other respects often perfectly healthy) under contribution, without obtaining, after all, more certain favourable results." 209.

The prognosis, when disease has extended to the filling up of the tube by engorgement or to stricture, is in every respect unfavourable, "by air I have never been able to effect any real dilatation of the Eustachian tube. The obliteration of the canal is a very rare disease, and Dr. K. has only met with it when both ears have been simultaneously affected. The inflammation of the cellular tissue and periosteum of this cavity, which Dr. K. defines as the true internal inflammation of the ear, acute and chronic, seems to be the only disease involving life and producing general disturbance. This is attended by febrile symptoms of a decided character, "acute pricking burning, tearing, boring, and dragging pains, are felt at the bottom usually of only one ear." The disease extends to the mastoid process, extending even to the dura mater and brain, involving all the surrounding bony and soft parts, ending in delirium and death. Little seems to be known of the cause of so violent a disease—some doubt has existed whether it ever is a primary affection, and our author attacks with some asperity Abercrombie, for having apparently called it in question. Dr. Kramer gives his opinion very decisively of its primary character, but without furnishing any proof. Cold—or metastatic transference of the cutaneous inflammatory action in scarlatina, small-pox, &c. are described as causes for its appearance.

An energetic antiphlogistic treatment—general bleeding from the jugular—leeches in large number around the affected ear—calomel in large doses given alternately with full doses of purgative salts—mercurial ointment rubbed in about the ear, and when the cerebral affection admits of it, emollient poultices to the ear—the meatus filled with warm water or almond oil, is the treatment recommended. The mastoid process should be laid open whenever fluctuation is discovered.

Under the head "Diseases of the Internal Ear" are included diseases of the labyrinth; that is to say, of the vestibules, the semicircular canals, the cochlea, and the nervous expansion, enclosed within these cavities. For these we have intentionally left but little space, since their existence and treatment are alike hypothetical—in the present state of the art at least they are neither of much practical importance nor interest. From these spring what is termed "nervous deafness," which, when it really exists, and is not used

merely to cloak ignorance by a name, is beyond the reach of art. The diagnostic signs are rather negative than positive—and consist chiefly in our means of ascertaining that the external and middle ear is *not* diseased, ergo—when loss of hearing, &c. occurs, the internal must be so.

The principal exciting cause is considered to be cold. All debilitating influences act in a very distinctly injurious manner, such as grief, care, &c. and violent concussions. Attention to the general health, and the passing a stream of ætherous vapour through the Eustachian tube—preference being given to acetous ether—is recommended for the erethitic form; when the deafness is decided to arise, on the contrary, from paralysis or torpor of the nerve, a more stimulant vapour is recommended. Inadequate as this treatment seems to be, several cases of success are reported.

In the chapter on ear-trumpets, Dr. K. says he considers the instruments best for all patients suffering from diseases of the ear, are those which are merely simple media for conducting and concentrating sounds, of which the conducting-tube of Mr. Dunber of Rathenow may serve as a model.

The last chapter is devoted to an investigation of how far deaf-dumbness may be curable; and although Dr. Kramer's conclusions are very disheartening, yet it must be evident that deafness may proceed from many causes, some of which can be removed, while others are altogether irremediable; so a careful examination into the causes, in each particular case of the infirmity, is of the utmost importance. It has been shewn that our means of investigation enable us very accurately to ascertain the state of the external and middle ear, and any deviation from health—and that they are very rarely beyond the reach of art—while the affections of the internal ear are infinitely more obscure, and form the only class, the majority of which are hopeless. Fortunately, in the diseases of the ear, the most dangerous and obscure are also the most rare.

It will be obvious that we consider Dr. Kramer's work, which is clearly and well-translated by Dr. Bennet, to be one of no small merit. It is, doubtless, like most German productions, somewhat wordy and diffuse—and might have been compressed into one half its present size, without the least disadvantage to author or reader. The cases are unnecessarily numerous, and all previous authorities on acoustic medicine and surgery are handled with a roughness and acerbity not very usual amongst continental writers, and more in accordance with the rival *artists* on this side of the channel. Dr. Kramer does not seem to be aware that, in his sweeping strictures on acoustic writers, he engenders some scepticism as to the proficiency of the art itself; since, although he may think himself infallible, the world will not give him credit for infallibility. "*Rien n'est si doux que ce qui est fort*," said a talented writer; and we are not the more disposed to believe an author right, because he vehemently maintains that his neighbours and predecessors are wrong. In respect to the translator, as he has not professed to abridge his original, his sole duty was fidelity—and that duty we believe he has performed with ability. The work, with all its minuteness of detail and German amplification, will be very useful in this country, where aural science is at an exceedingly low ebb, as compared with ophthalmic and dental practice.

On Reflex Motions. By Dr. A. W. Volkmann, Professor of Physiology in Dorpat.

[From the Archiv Für Anatomie, Physiologie, by Dr. J. Müller, 1838.]*

By the term "Reflex Function" Marshall Hall has, it is well known, characterized an action of the spinal cord, which imparts muscular motions not in the direct way of nervous communication, but in a round-about way. The round-about consists in this, that the exciting stimulus affects a peripheric organ, as, for instance, the skin is carried from thence to the spinal cord; and from this it is at length reflected to the muscles which are to be moved. Phenomena which appertain to the reflex functions, were well known a long time since, as may be proved from the works of Le Gallois, Desmoulins, Flourens, and Treviranus, yet Marshall Hall has the merit of having investigated them more fully, and of having compared them with nervous actions of quite another kind. Though I duly appreciate this merit, and wish to do full justice to the important discoveries of the English physician, still I cannot deny that I consider many of the consequences which he has deduced from his experiments as not being sufficiently grounded, nay even as being absolutely erroneous.

The chief points in the theory laid down by Dr. M. Hall are as follows: The reflex motions of the spinal cord make a *receptive* and a *re-active* faculty necessary in the latter, but the receptive is not *sensation*, nor is the re-active the will. As according to Bell's discovery, sensation and will have their own nervous fibres, so have both these faculties of the spinal cord in like manner their own proper fibres, which are not connected with the sensorium, but solely with the spinal marrow. The fibres subservient to the receptive faculty are called exciting, those appertaining to the re-active faculty are styled *excito-motory* fibres. Now as the fibres subservient to sensation and those to motion enter together into the mixed nerves, so is there again a more complex mixture which proceeds from the combination of the senso-motory nerves with the excito-motory. Through the reflex functions of the spinal cord the sphincters are closed, and the tone of the muscles is preserved. The reflex motions are just as distinct from the voluntary motions, as from the motions of muscular irritability, and form accordingly a class of motions of a peculiar kind.

The extraordinary importance of the reflex functions in physiology and practical medicine, induced me to communicate the following article, in which I speak entirely from my own experience, though for the sake of connexion I deem it necessary to make some observations which are already known from the works of Dr. M. Hall and John Müller.

1.—STATE OF FROGS AFTER DECAPITATION.

If the spine of a frog be divided perfectly behind the skull, violent motions always take place in the trunk, which hold for a little time, and cease in a variety of ways. Very frequently there is observed so strong an adduction

* Contrary to our usual custom, we have deemed it necessary, in this instance, to give rather a translation than an analysis, in order to prevent any mistake or misapprehension, where nice physiological experiments are narrated.

of the hind legs, that the feet are extended forward over the head, in consequence of which motion the body sometimes completely tumbles over. In other cases the effect of the decapitation is directly the contrary, as a violent extension of the hind-legs, combined with rigidity takes place, in which case a rooting (*wühlende*) motion of the muscles of the extremities is observed. On what peculiar circumstances this variety of the motions depends, I have not been able to ascertain. Marshall Hall's assertion is of physiological importance, viz. that in the decapitated animal, if it once comes to be at rest, motions never again take place in it, unless external irritants occasion them. The decapitated animal must continue in the state of rest once assumed, and remain unchangeable till the last spark of life disappears. Now I can most positively state that this assertion is incorrect. I have repeatedly seen that decapitated frogs, without any external cause whatever, made certain motions with the posterior extremities, apparently, as if the animal wished to place itself in a commodious position. I can even mention a certain way by which to observe similar independent motions in decapitated frogs. If the head be separated from the trunk, and the first spasmodic movements be over, a state of rest takes place, which appears to be a consequence of exhaustion. At this period, commonly a few minutes after decapitation, the mutilated body is very little excitable, and whilst at a later period the slightest touching of the skin occasions reflex-motions, the body may now be handled in a variety of ways, without causing any motions. If at this period one brings the posterior extremities into a perfectly extended position, and allows the animal to lie at rest on the solid ground, it will be observed, that this position will continue from five to ten minutes, but afterwards the frog adducts the legs, not gradually, but suddenly, and changes his extended, lying position for a sitting one. I do not remember that this experiment ever even once failed me. But if the frog has at first assumed the sitting position, he commonly continues in it till death, and an independent movement is seldom observable in the absence of external stimuli.

II.—SIMPLEST PHENOMENON OF REFLEX MOTIONS.

On irritating a decapitated amphibious animal by pricking, pinching, burning, often also by merely feeling with the hand, the animal makes regular muscular motions, which oftentimes perfectly resemble those of voluntary motion. These motions do not consist merely of a simple and sudden start, as occurs when a muscle is irritated, but they are more extended as to time, and complicated with respect to their consequences. The motions are repeated for example in the alternation of flexion and extension, particularly if the first motion, by striking the limb against some hard object, becomes itself a stimulus for a second motion. Continued reflex motions are also observed, when the amphibious animal is suspended, so that the continuance of the motion must be referred to the uninterrupted action of an internal principle. These phenomena continue in lively frogs, salamanders and water serpents, always for several, often for very many hours after death, they cease on the contrary instantaneously when the spinal marrow is destroyed or divided. If an amphibious animal be divided into several portions, these reflex motions are observable in every part furnished with spinal marrow, and cease in each the moment the spinal marrow is destroyed.

III.—REFLEX-MOTIONS ON DIVIDING THE SPINAL-CORD LONGITUDINALLY.

In a decapitated frog, the upper half of the spine was opened, and a deep longitudinal cut was carefully made from the commencement of the spinal marrow to two lines below the second spinal nerve, and so on to the fourth nerve of the spine. In consequence of this operation, an uninterrupted spasmodic movement took place in the muscles of the anterior extremities, and slight twitches in the muscles of the thighs. When this storm was allayed, the animal assumed a sitting posture. When I now touched one of the fore-paws, this immediately drew itself back. When on the contrary I pinched one fore-paw with a pincers, not only the irritated paw moved itself, but both hind-legs drew back violently. On each attempt at irritation these phenomena were repeated, on the contrary I never remarked that pinching a fore-paw occasioned any motions in the corresponding one of the other side.

On irritating one hind-leg in the same animal, not only were reflex motions occasioned in the second hind-leg and in the fore-paw of the same side, but to all appearance convulsive movements in the fore-paw of the opposite side. On pinching the left hind-leg, the animal wheeled round, with the thorax to the left-side, which could not take place otherwise than by stretching the right shoulder. I could now decidedly observe twitches in the muscles of the shoulder, which however also receive their nerves from the part of the spinal-cord which was divided longitudinally.

In a decapitated frog the spine was opened in the lumbar region, and that portion of the spinal marrow divided by a longitudinal cut, which supplied the posterior half of the body with nerves. I now irritated one fore-paw, when all the four extremities moved every time quite perceptibly. If on the contrary I irritated a hind-foot, reflex motions were observed only in the fore-foot of the corresponding side. They were of a doubtful nature in the fore-foot of the opposite side, whilst in the second hind-foot no trace of motion was observable.

In another frog, the spine was opened along its entire length, and the spinal marrow was split longitudinally from the upper extremity to the last lumbar nerve. The reflex motions were very feeble. Irritation of the anterior extremities could never produce motions in the posterior, a thing which was obviously the consequence of the too great destruction of parts. Irritation of a hind-foot produced motions in the corresponding leg and abdominal muscles of the same side. Severe pinching in the same even excited twitchings in the *m. cucullaris* of the same half of the body. On the contrary, twitchings were never occasioned in muscles of the opposite side, though the portion of the spinal marrow which lies behind the roots of the sciatic plexus had still continued uninjured.

In a decapitated frog the spine was opened, with the exception of the fourth and fifth vertebræ, and the spinal-marrow was halved along its entire length, except the place covered by the vertebræ just mentioned. Accordingly only a small portion of the spinal-marrow remained undivided—that which supplies the middle abdominal region with nerves. Irritating one fore-paw merely excited motions in this part itself, whilst irritation of a hind-foot, on the contrary, brought reflex motions in all the four extremities

In this case the motion of both shoulders was very striking, that of the arm distinct only on the same side with the irritated leg.

In the preceding observations the strength of proof lies only in the cases where a motion follows, not in those where it ceases. For it is clear that a reflex motion can only take place when its organic conditions are given, whilst in operations such as the preceding, it must very frequently cease from the knife having been too destructive. With respect to this circumstance, I think I am warranted in concluding from all that is premised: *that a longitudinal division of the spinal marrow does not prevent the extension of reflex motions over all the muscles of both halves of the body, so long as any part of the proper spinal-marrow remains connected at the middle line.* By proper spinal-marrow I mean that part from which the first ten spinal nerves take their origin. The portion of the spinal-marrow lying more posteriorly, which part might be called the *pars caudalis*, seems to be incapable of reflecting irritation from one side of the body to the other.

IV.—REFLEX MOTIONS HAVE THE CHARACTER OF DETERMINATENESS. (Zweckmässigkeit).

When a decapitated amphibious animal is irritated, the motions consequent on the irritation are not only generally determinate, in as far as the muscles associated during life come into action simultaneously, whilst the antagonist muscles, on the contrary act in fixed sequence, but they are also especially determinate, that is, the re-action of the motion depends on the peculiar mode of irritation. If one stimulates a decapitated tortoise, it crouches beneath its shell. It is a striking thing that frogs, which are not accustomed to those peculiar movements, prefer them after decapitation. It is equally striking that these peculiar movements are not always performed in the same way, but in a way varying very much according to circumstances. I irritated the fore-paws of a decapitated frog, and it drew them back. I irritated them again, and again he drew them farther back; but on irritating them once more, the animal hid its paws under the abdomen, and changed its sitting into a lying posture. If one stimulates a decapitated frog in a sitting posture severely on one hind-leg, he makes a spring, and so extends the thigh; if one grasps him roughly in the pectoral region, he stretches the thigh forwards, presses his feet firmly against the hand, which holds him, and seeks to free himself. If a person pinches the skin of the abdomen or spine with a pincers, nothing is more common than that the mutilated animal should scratch the irritated part with the hind-leg of the corresponding side.

It appears on the whole, as if the decapitated animal felt the operation of the stimulus, and from among various means selected the most suitable to remove itself from the trouble of so feeling.

V.—THE EXTENSION OF THE REFLEX MOTIONS IS PRINCIPALLY DEPENDENT ON THE STRENGTH OF THE STIMULUS AND ON THE DEGREE OF IRRITABILITY.

When a person irritates a recently decapitated amphibious animal by gently touching any part, the motion is often confined to the vicinity of the part irritated. Thus, by gently irritating a toe, it sometimes happens that

motions of the foot exclusively are produced. But by a somewhat stronger irritation the entire limb, of which a part is touched, becomes moved; by increasing the irritation still farther, the motions extend over all the muscles, and it appears worthy of remark, that proportionally slight irritations, for instance, gentle feeling with the hand, are strong enough to produce general motions.

In a corresponding way the extension of the reflex motions depends on the degree of irritability. The less the irritability, the more confined the movements are, the intensity of the irritation in other respects continuing the same. Thus a considerable time after decapitation it is no longer possible by irritating a limb to produce motions in other parts except in those irritated.

VI.—IN THE REFLEX FUNCTIONS THE POSTERIOR ROOTS OF THE SPINAL NERVE SERVE EXCLUSIVELY AS EXCITING, THE ANTERIOR EXCLUSIVELY AS REFLECTING NERVES.

By exciting nerves, I mean such as are capable of conducting the irritation, which is applied to a peripheric organ, inwardly to the spinal-marrow, and by reflecting nerves, those which conduct the irritation from the spinal-marrow outwards from the centre, and convey it to a muscle.

If in a decapitated frog the three posterior roots of the sciatic plexus be cut through, the most violent irritation of the thigh is not able to produce reflex motions. But it can be shown that this same operation has neither destroyed the reflecting power of the spinal cord, nor the muscular irritability of the injured thigh. If, for instance, in the same frog, one irritates a fore-paw, reflex motions are observable in all the four extremities. If then dividing the posterior roots of the sciatic plexus deprives the divided nerves of the power of producing reflex motions, this circumstance can only depend on the posterior roots alone being qualified to convey a peripheric irritation to the spinal-marrow.

If in a decapitated frog the anterior roots only of the crural plexus be divided, on irritating the affected leg, no motions are produced in the limb itself, but motions are produced in the three remaining extremities. If in the same frog any one of the uninjured extremities be irritated, reflex motions are excited in all the muscles with the exception of those of the extremity operated on. Accordingly the posterior roots of the spinal nerves contain no fibres, which possess the property of conducting an irritation from the spinal marrow in a centrifugal direction outwards, and of throwing it back to the muscles.

The experiments here communicated are only an imitation of those so skilfully performed by J. Müller (*Physiologie* Bd. 1. S. 703). However they have another confirmatory proof, as the latter. J. Müller operated on animals not decapitated, in which the motions of mental origin cannot be rigorously distinguished from the reflex motions. Animals not decapitated, when irritated, perform motions, which do not depend necessarily on the reflecting power of the spinal marrow, but possibly on the brain, in which sensation probably always comes into play. In non-decapitated animals also a motion sometimes does not follow, which in an animal deprived of brain would have taken place in consequence of a stimulus, and probably the rea-

son is because the will has the power of interfering with the reflex motions.

Müller's experiments, strictly taken, only shew that the sensitive fibres are capable of an exclusive conducting inwards, whilst the voluntary motor fibres alone possess the property of conducting outwards. But if it be undetermined whether the sensitive and exciting fibres on the one hand, and the voluntary motor and reflecting fibres on the other hand, are identical (Dr. M. Hall has actually raised doubts with respect to this identity), experiments with decapitated animals were necessary in order to determine whether the posterior roots of the spinal nerves, besides sensibility, also preside over the exciting faculty, and whether the anterior roots, besides voluntary motion, also preside over reflex motion.

VII.—THE EFFICACY OF THE STIMULI WHICH PRODUCE REFLEX MOTIONS, IS MODIFIED AND INCREASED THROUGH THE PERIPHERIC DISTRIBUTION OF THE NERVES.

In a recently-decapitated frog the gentlest stimulus is sufficient to produce reflex motions, though the epidermis prevents an immediate action of the stimulus on the nervous mass. If on the contrary a nerve be laid bare, it becomes necessary to stimulate it with considerable strength, in order to produce reflex motions. In experimenting carefully every one will convince himself that no deception is present in this case. The preponderance of the irritability of the skin in frogs is most striking, after first narcotising them with opium and then decapitating them. Under these circumstances the irritability of the skin is sometimes increased to such a degree, that tickling it with a feather produces general convulsions. If, in an animal so prepared, a piece of skin be removed, one may pinch and puncture the subjacent muscles, without occasioning any reflex motions whatever. Even dividing the muscles with the scissors at this period I have seen pass away without any reflex motions whatever.

Even without the previous exhibition of opium, the skin of the frog possesses a greater irritability than the nerves to which it is indebted for its power of sensation. On a decapitated animal I made the following experiment: I carried a circular incision with a scissors, commencing at the nape of the neck, over the left shoulder, the flanks, and the thigh of the left side, continuing it to the anus, and then carried it back on the right side through the corresponding regions. It is a known fact that in frogs the skin is very imperfectly connected with the rest of the body, and by the above-mentioned circular incision a considerable flap of skin was raised, which was connected with the remainder of the body only through some bands of cellular tissue, through blood-vessels and cutaneous nerves. This portion of skin, however, excited distinct reflex motions, wherever it was pinched with the pincers; more particularly stimuli in the region of the anus excited convulsive kicking with the hind feet.

The piece of skin was now held gently by the anterior edge, raised up, and separated from the body by cutting all the connecting fibres. In this operation, on making two cuts, slight, scarcely perceptible convulsive movements were occasioned on the upper part of the thigh, in the other parts no reflex motions. The experiment was repeated in the same animal towards

the abdominal region. Irritating the flap of skin formed here by means of the pincers, not only produced very lively, but also determinate reflex motions: for if a part of the skin was pinched, the animal seized it with the fore-paw and covered it. I carefully removed this flap of skin with the scissors, and no reflex motion was produced.

On dividing larger nervous branches, or one of the posterior roots of the sciatic plexus, I have often observed reflex motions to be produced, but the character of determinateness, which is so prominent in cutaneous irritation, appeared invariably to be wanting. Were the animals on which I operated not decapitated, I would have admitted that irritation of the skin occasions objective conceptions* from such irritation, and accordingly a reflex action of the mind, whilst irritation of the nervous branches, on the contrary, produces only excitation of the spinal cord, and in consequence of this, a re-action which is organic to be sure, but still not mental.

Our author next considers the effects of irritating the sympathetic nerve, and the widely extended reflex motions occasioned thereby. He then proceeds to establish that the conveyance of the nervous principle from the periphery to the central organs, and from these backwards to the peripheric nervous distributions is not subject to the same laws, as its conveyance in the nerves of sensation and motion. He then endeavours to prove that our present experience is not sufficient to prove that all reflex motions of decapitated animals, and specifically of decapitated amphibious animals, can go on without the co-operation of the mind, as the principle of sensation and of the will.

M. Hall has excluded this co-operation of the mind for all cases, and the principle argument on which he rests, is the supposed experience that decapitated animals, if they are once in a state of rest, can perform no motions without the aid of an external stimulus, but that they die in the position once assumed. I have shown that this assertion is incorrect, so far at least as concerns stimuli, whose external nature is provable. I certainly will not absolutely deny that the motions which a decapitated animal at rest recommences independently, may still depend on something external, on some irritation of the air on the surface of a wound, and the like; but the admission of external stimuli of this kind would be mere hypothesis, and at the very least would leave behind the possibility that such motions really depend on an internal principle, which might even be a mental one.

Even if it were true that decapitated animals attempt no motions of themselves, M. Hall's conclusion would still be unsatisfactory, viz. that reflex motions are accomplished without the co-operation of the mind. Even where the system is uninjured, a state of mind exists in the period of profound sleep, where motions originally proceeding from the mind become interrupted.

During this period sensation and volition are not taken away, for they are both active on the individual awaking; they are only incapable of allowing actions to proceed from themselves without a preceding external stimulus.

* The English reader will excuse us for this scrap of metaphysical jargon; he has it however as we found it in the German, and every body knows what German metaphysics are.—*Reviewer.*

If it could be admitted that the mind may be contained in some other part of the body besides the brain, one might compare the rest of a decapitated animal to the rest of an animal asleep, with this difference however, that in the decapitated animal, where the rest was not caused by exhaustion, moderate stimuli rendered awaking from the torpor possible.

Extremely insufficient are the grounds by which M. Hall seeks to prove that sensation does not come into play in the reflex motions. He here remarks, that the reflex motions sometimes cease if the body be placed in a posture which must be inconvenient, or even painful to the animal, if it felt. In a decapitated serpent the reflex motions ceased whilst the animal hung with its tail over the sharp edge of a table. It did not make a single move, when the tail was punctured, or even burned. It is strange that M. Hall did not explain these phenomena in the way in which alone they can be explained, viz. that the irritability of the subject was for the moment so exhausted, that the stimuli which were applied did not excite the action of the reflex functions. As puncturing and burning in decapitated animals in the normal state occasion motions, so the cessation of these motions, in the observed case, proves the cessation of a power which is ordinarily present. If in the individual case one deduces the loss of motion from the want of sensation, so is the latter generally recognized as a condition of motion, and vice versa: if it be denied that the reflex motions proceed from sensation, the discontinuance of the one cannot prove the absence of the other in the single case. All those experiments which are intended to contradict the participations of the soul in the reflex motions are insufficient. If the observations be duly considered, which have been made by me regarding the determinateness of several reflex motions, it will be difficult to abandon the idea, that here also the mental principle comes into play. On all vital actions the character of determinateness is impressed, and yet all the vital functions do not proceed from the soul; still the determinateness of mental acts has a something peculiar, and many reflex motions seem to me to participate in this peculiarity.

The settling of the question, whether the determinate reflex motions of decapitated amphibious animals proceed from sensation and volition, would presuppose psychological investigations, to the prosecution of which I do not feel myself adequate; my end is attained if I have shown, that the phenomena already discussed are not sufficient to disprove the influence of the mind.

VIII. ON THE DIVISION OF THE NERVES, PROPOSED BY M. HALL.

M. Hall distinguishes two species of centripetal acting fibres, the *sensitive*, which are the mediators of sensation, and the *exciting*, which have nothing in common with sensation. In like manner he distinguishes two species of centrifugal acting fibres, the one of which produces only voluntary motions, *spontano-motory*, and the second of which also calls forth motions, but only involuntary motions (*reflecto-motory*). These four species of fibres are divided into two classes; the one comprehends the cerebral or senso-motory nerves, which are connected with the sensorium, the other contains the spinal or excito-motory nerves, which have no connexion with the sensorium. The nomenclature already indicates, and numerous passages in the essay on

the nervous system scarcely leave a doubt, that M. Hall derives the reflex-functions exclusively from his spinal nerves, that is, from nerves whose fibres are not appropriated to the conducting of sensation and of the will. Many considerations, however, are opposed to this view of the subject.

If the reflex functions are made to proceed from the spinal nerves, a number of phenomena are struck out of the class of reflex-functions, which are essentially connected with them. In reality every voluntary motion is a reflected motion, as it proceeds from a conception which was brought into life through a sensible impression of some kind, and takes place by means of the brain as an intermediate organ transforming the received stimulus into a stimulus of the will, and transferring it to the spontano-motory fibres. No doubt, between these motions and the reflex motions in the strict sense, there is this distinction, that the former takes place through consciousness; but however important this may be in another respect, it seems totally indifferent with respect to the physiological act of reflection. Motions, as sneezing in consequence of a sharp smell, or contraction of the pupil by the stimulus of a strong light, could not be separated from reflex motions without considerable violence, and still in these cases the function evidently does not go on merely in the sphere of the spinal nerves, but with respect to the centripetal nervous conduction, by means of the cerebral nerves.

But even concerning the reflex functions in the stricter sense, it appears to me very doubtful, whether it is right to limit them to the excito-motory fibres, which are in no way connected with the organ of mind. One cannot touch even the smallest part of the skin with the finest needle, which does not possess sensation, from which we are warranted in concluding that every, even the smallest, part contains a sensitive nervous fibre. But if every prick with the finest needle excites reflex-motions in the decapitated frog, and if the excitation is to come entirely from spinal fibres, we are forced to the extraordinary admission, that every part of the skin, of the size of a needle's point, possesses two specifically distinct nervous fibres. For the same reason, every muscular fibre, which can be moved both voluntarily and also involuntarily, as in the case of convulsions, must possess, besides a cerebral fibre, also a spinal fibre.

When, now according to what has been stated, it is extremely probable that not merely the spinal fibres, but also the cerebral fibres, are the media of reflex-functions, it certainly cannot be concluded, from the reflective power of a nerve, whether it is mixed, that is, whether it possesses both these species of fibres, or only one. The conclusion, for instance, that the trigeminus, in its expansion on the organ of vision, contains excitatory fibres, because irritation of the conjunctiva produces reflex motions of the eye-lids, is unsatisfactory, as its sensitive fibres appear not less appropriated to the production of such motions. The division of the nerves given by Dr. M. Hall accordingly rests, from beginning to end, on a weak foundation, but the development of the system is even more defective than it needed to have been according to its own principles. His division is as follows:—

1st. Class. Cerebral—or Sensomotory Nerves.

A. *Sensitive Nerves*. Olfactory, Optic, great portion of the Trigemini, the N. Auditorius, N. Glossopharyngeus, the posterior roots of the Spinal Nerves.

- B. Spontano-motory Nerves.* N. Oculomotorius, small portion of the Trigemini, N. Hypoglossus, the anterior roots of the spinal Nerves.

2nd Class. Spinal or excito-motory Nerves.

- A. Excitatory Nerves*, great portion of the Trigemini, Vagus, posterior roots of the Spinal Nerves.
- a.* Excitatory Trigemini, in its expansions on the eye-lids, alæ nasi, throat, skin of the face.
 - b.* Excitatory Vagus: in the larynx, pharynx, stomach, and lungs.
 - c.* Posterior Spinal Roots excitatory: at the anus, neck of the bladder, os uteri, cutaneous surface.
- B. Reflecto-motory Nerves*, (presiding over involuntary motions.) N. Patheticus, abducens, Facialis, in its distribution to the M. Orbicularis (oris?) Vagus, to the larynx and pharynx, the Accessorius Willisii, anterior roots of the Spinal Nerves.

3rd Class. Ganglionic Nerves.

This division however appears in a great degree arbitrary, and scarcely has any one nerve received a place in it which might not be attacked in one respect or other.

To adduce a few cases, the nerves of sense are thrown exclusively into the first division of the first class, but they do not merely serve for sensation, they also excite involuntary motions, as, for instance, irritation of the nasal membrane produces contraction of the iris and closing of the eye-lids.

The vagus is ranked under the excitatory, not under the sensitive nerves, which cannot be understood otherwise than that its power to convey irritation to the brain must depend on fibres of a peculiar kind, that is, on excitatory fibres. And yet many observers, on dividing the vagus, have seen manifest signs of pain: Bischoff and Brachet have recently placed the sensitive power of this nerve in the clearest light, and when Broughton, on dividing this nerve, observed no signs of pain, the cause of it was, that the pain of the preceding operation threw the animal into that state of dumb reaction, which so often takes place in vivisections. Further, with respect to the nerves, by which motions are conducted, (not to mention the facial nerve,) the N. Patheticus, Abducens, and the nerves of the voice, are unaccountably omitted among the spontano-motory fibres; on the other hand, the oculo-motorius is only numbered among the nerves of voluntary motion, just as if it were incapable of reflex motions. However, according to Mayo, the motions of the iris depend on these nerves. and the irritation of worms in the intestines occasion dilatation of the pupils on the principle of reflexion. Lastly, that division of the nerves is so far incorrect, as it perfectly excludes the ganglionic nerves from the list, without making reference to their admixture, as well with sensitive as with excito-motory fibres. As for instance in that division, the Trigemini, is misplaced no less in the second than in the first class, because it appears to contain excito-motory besides senso-motory fibres, the sympathetic must accordingly be mentioned in the first division of the first class among the sensitive fibres, and, in the second class, in both divisions, accordingly among the exciting and among the reflecting fibres. If the Trigemini is to pass as a mixed nerve of second power, that is, as a nerve, in which not only sensitive fibres mix with spon-

tano-motory fibres, but these again with excitatory and reflecting fibres; the Sympathetic then must be ranked as a mixed nerve of third power, as besides sympathetic fibres, it also contains sensitive, excitatory, and reflecting fibres.

We have now presented our readers with the principal points contained in this paper of Professor Volkmann; sufficient of it at least to shew that the reflex-function system is far from being a perfect one. Dr. Marshall Hall can hardly expect that the reflex-function, together with the apparatus by which it is performed, has yet attained anything like perfection; and we are sure that, instead of viewing with a jealous eye, the experiments of other physiologists, whether corroborative or subversive of his doctrines, he will hail them with joy. We think that experiments should be carefully and frequently performed on animals, instead of wasting words, time, and large quantities of ink, in controversies as to priority of discovery. This hint may be usefully acted on by both parties in this bellum horridum.

FORENSIC MEDICINE.

A MEDICO-LEGAL TREATISE ON HOMICIDE BY EXTERNAL VIOLENCE—WITH AN ACCOUNT OF THE CIRCUMSTANCES WHICH MODIFY THE MEDICO-LEGAL CHARACTERS OF INJURIES AND EXCULPATORY PLEAS. By *Alexander Watson, Esq., F.R.S.E.*, and one of the Surgeons of the Royal Infirmary, &c., &c., &c. Edinburgh and London 1837, pp. 355.

IN our number for January we reviewed a volume from the Irish press, on the difficult subject of pregnancy, its signs and symptoms. We are now about to notice a work from the Scottish press on a matter of equal importance—homicide.

We had then the pleasure of recommending Dr. Montgomery's volume to general notice, and have no less pleasure now in introducing Mr. Watson to our readers. And thus in two successive articles on medical jurisprudence to make the extremes meet of the beginning and the termination of life.

By Mr. Watson the subject is treated of under twelve heads, and, in order to facilitate the analysis of his work, we shall notice each separately.

I. GENERAL REMARKS ON MEDICAL JURISPRUDENCE.

Legal, or forensic medicine, is altogether a science of facts; it has nothing, and ought to have nothing, to do with opinions. In its application to practical purposes, its true object must ever be, the development of truth, and that alone.

The value of medical testimony will therefore be always in proportion to the medical witness's acquaintance with the facts of his profession—and, the most accomplished practitioner, will ever bear the most respectable evidence, in all the cases which ordinarily occur, to summon him from the active duties of his profession, to wile away his time in courts of law, listening

while the Belials of our earth exert their eloquence on whatever side hired to "make the worse, appear the better cause," until summoned in his turn to add the weight of his assertions, under the solemn sanction of an oath, to the scale of even-handed justice. His duty is then plain—to declare the truth—the whole truth—and nothing but the truth—so help him, God! His competency to declare the truth and not a lie, will mainly, if not wholly, rise out of the perfection of his general professional attainments, whether he may have studied medical jurisprudence distinctly, as a separate branch of the manifold science of medicine, or only made himself master of the several questions to which it gives rise in the ordinary course of his general medical studies.

"My object in examining, or cross-examining witnesses," said a venerable friend to the writer of this review, "is to develop truth. My aim and endeavour in undertaking the cause of a client, is to carry it to a successful issue if it deserve one—and, if my client be clearly unworthy, to maintain for him the right of every man, to be judged only according to law, and not condemned contrary to law." Such is the duty of the advocate. A difficult and a dangerous one—at once artful, complicated, and cunning, must be the efforts of him who undertakes it. How beautifully simple, easy, and unencumbered, on the contrary, is the task assigned to the medical witness. He has only to state facts as he finds them, and leave truth to make its own way in the minds of those who sit as judges: And the more rigidly he confines himself to facts, and avoids the hazard of opinionating himself, and the indelicacy of meddling with the opinions of others, the better. True, judges sometimes, and advocates always, will endeavour to get at the opinions of medical witnesses. The latter from a very natural desire to strengthen his own case and weaken his adversary's. Facts, are facts, and too stubborn to bend or break under a lawyer's tongue, or be pulverized between a lawyer's teeth. Once sworn to, there let them rest, silent yet most eloquent, because all-persuasive;—whereas, opinions may or may not be true. And while, if the facts be admitted, the conclusion from them is certain, arguments against them militates nothing—declamation itself is hushed in their presence;—opinions are not so—the witness has one opinion—the lawyer another—the witness may state his opinion but he may not defend it, or declaim upon it—the arguments is the lawyer's, and he argues alone, there is none to answer him but a lawyer, who cannot so well as the author of the objections, argue in favor of an opinion of which *he* is not the author—and which to him is altogether extra-professional—perhaps altogether unheard of.

The difficulty is not, how to state, but how to ascertain the facts of any given case. And unless the witness be morally certain of the truth of his facts;—certain, beyond all possibility of doubt, that their accuracy cannot be impeached, he should hold his peace and not bear witness at all. Not only property, but liberty, and even life itself, to say nothing of that without which prolonged life is only protracted misery—character, each, and all may hang upon his breath—and be saved or forfeited, according as he shall testify.

The use therefore of medical jurisprudence is, not to supersede the knowledge which every man must acquire for himself—from experience, observation, and study. But to distinguish that knowledge which is required for

the purposes of justice, and to separate the facts upon which it is based from the crowd of other facts, which, however, valuable, may embarrass but cannot assist investigations partaking as much of a legal as of a medical character.

The qualification of a medical witness to assist coroner, judge, or jury, is knowledge—professional knowledge. The greater his knowledge the better is he qualified. Nevertheless, since medical jurisprudence has only very recently—within the last ten years—been made a *sine quâ non* in the curriculum of a medical education, whether in London, Edinburgh,* or Dublin—and as many persons hold diplomas who never studied the subject at all, we do not agree with Mr. Watson that “medical jurists should be men holding diplomas from some of the legally constituted medical faculties.” We, however, fully coincide in what follows:—

“The extent of medical knowledge possessed by a medical jurist cannot be too great. He requires to know accurately the symptoms, morbid phenomena, and the proper treatment of all diseases and injuries, the effects of remedies, of poisons, and of other external agents, upon the body. This is necessary, in order that he may be able to decide correctly on any given case, whether natural disease, poison, injury by violence, the effects of substances used as remedies, or other accidental circumstances, caused death; and in order also that he may be able to judge whether the treatment of the injured person, which had been adopted, was proper, and was applied in conformity to the established principles of the profession, as well as to see that no important measure was omitted which might have saved the life of the deceased.” 6.

The evils resulting from the contradictory opinion of medical witnesses, summoned on opposite sides of the same cause, call forth a very indignant but proper remonstrance from Mr. Watson, on the injury such contradictions are apt to do the parties whose interests are at stake—and on the degradation to which they expose the profession itself. But he fails to trace those evils, to their original cause, which is the unconstitutional, and, with all deference be it spoken, the illegal practice of calling upon witnesses to state their opinions—instead of confining them to a simple statement of facts—the truth—the whole truth—and nothing but the truth. Neither judge nor jury have any right to demand of a witness, in what light that witness regards the facts to which he has testified—it is for them to opine—decide—and pronounce judgment accordingly: the witness's duty is done when he has given his evidence—and opinions enter not into the nature of evidence:—all beyond mere truth-telling—and opinions, however valuable in some instances, are not necessarily, nor always, truths—is supererogatory—and may prove fatal to the ends of justice, by biasing the judge, and exercising an undue influence over the jury. For all men are naturally disinclined to labour and averse from responsibility—and if judges can remove from themselves the labour for which they alone, are paid, of sifting evidence, and separating the bad from the good, the false from the true, the important from the unimportant—and if jurymen can absolve themselves from the heavy responsibility of “well and truly trying” the case before them, and skulk from the upbraidings of a disquieted conscience to hide them under the

* The Forensic Medicine chair is a little and only a little older, than the time above stated.

shelter of opinions which ought never to have been given or received in a court of justice—they will very composedly allow the medical witness to do their work for them, to underlye their responsibility—and—to make himself and the profession of which he is a member a “bye-word and a mockery” among men.

Having made these observations upon the subject generally, we proceed to the author.

II. and III.—GENERAL REMARKS ON HOMICIDE AND ON DEATH BY VIOLENCE.

Homicide admits of four divisions—intentional, or willful—culpable—unavoidable—and justifiable.

Death by violence, follows upon an injury done to one or other of the sets of organs known as vital, or it may be occasioned by the sympathy subsisting between one set of organs and another; the nervous system being affected by derangements of the circulating system—and both affecting the functions of respiration and digestion to the loss of life from the extent to which they become affected, when, but for such secondary affections, the original injury might have been wholly inadequate to produce a fatal result.

Some injuries are necessarily fatal, from the importance of the organs concerned—from being beyond the reach of art—or, from the magnitude of the injury.

On the other hand, a diseased habit of body, or a deranged condition of parts, may render an injury fatal to one individual, which would be of no moment to another. And, to the same individual, the injuries which at one time would be comparatively harmless, might at another be of the most serious consequence.

The injury, moreover, may be so modified as to occasion the loss of life from inattention, negligence, or unskillfulness, on the part of the professional attendant—or from obstinacy, perverseness, or intemperance on the sufferer's own part.

“Some injuries, therefore, are fatal from peculiarity of constitution, or unfavourable circumstances of the patient; some prove fatal by accident; some are rendered fatal by the conjunction of disease; while others proceed to a fatal termination by neglect or improper treatment.”—“It is, therefore, of great importance for us to inquire, not only what injuries prove inevitably fatal, but under what peculiar circumstances the slightest degrees of injury are followed with this result; in order that we may be able to say, in any particular case, whether the injury was sufficient to have caused death directly by the violence, or this event was the effect indirectly of other circumstances.” 16.

IV.—MEDICO-LEGAL DEFINITIONS OF WOUNDS.

Every student knows the surgical division of wounds, into *incised punctured, lacerated, contused, and gun-shot*.

In legal medicine the term is much more comprehensive, including *contusions, concussions, fractures, dislocations, sprains, burns*, or, in the words of our author:—“every local alteration of any part of the body, produced by violent means.” 18.

Mr. Watson's chapter on this subject is acknowledgedly founded on the Treatise of Orfila—and adds nothing to the knowledge previously possessed by every tyro in the profession. Indeed the four first chapters of his treatise may be said to be elementary merely, and to contain nothing that was not already before the public in previous publications. They possess, however, the merit of being concise and clear.

In the following chapters, which we now hasten to review, he treats his subject at length, and with a master-hand.

V.—OF HOMICIDE BY INJURIES OF THE NERVOUS SYSTEM, INCLUDING INJURIES OF THE BRAIN—SPINAL-CHORD, AND THEIR NERVOUS RAMIFICATIONS.

"The Study of Medicine" introduced a new era in the classification of diseases, arranging them according to the organs affected—at once a natural and easy order. Mr. Watson has carried Dr. Good's improvement into the study of Forensic medicine—and divides his subject "according to the organic systems affected by the injury or violence," which led to death—viz: the nervous, the circulating, the respiratory, the nutritive, and the generative systems.

Injuries of the nervous system frequently occur, and call for serious consideration, because a common cause of both sudden and lingering death in cases of homicide—and sometimes proving fatal, without leaving a trace behind in any alteration of structure.

These he subdivides into four classes—(query, orders?) comprising:—*α*. Injuries of the tegumentary and bony parts of the cranium; *β*. of the brain; *γ*. of the spinal-chord; and, *δ*. of the nervous ramifications from the brain and spinal-chord.

α. Injuries of the tegumentary and bony parts of the Cranium.—Such cases are more or less frequently fatal, in proportion as they give rise to inflammation—whether phlegmonous for erysipelatous; the latter, often supervening upon a slight wound of the scalp—the former, sometimes extending to the membranes of the brain and even to the brain itself.

β. Injuries of the Brain.—Mr. Watson includes these under three classes—query, genera?—concussion or commotion, compression, and inflammation. In the first case, death is the effect of syncope, occasioned by a cessation in the heart's actions. In the second, of insensibility and coma, putting a stop to the respiration. In the third, of inflammatory and irritative fever—or of effusion, or of suppuration upon the surface of the brain causing compression.

In some cases there is no external lesion—yet, extreme internal disorder. In others the external injury is considerable. In some, death is the almost instant sequence; in others, the patient appears to have recovered—and is going about when suddenly seized with symptoms which hurry him to his grave.

Death—instant and sudden death from concussion may take place without fracture of the skull—without extravasation of blood within the

cranium—without perceptible organic lesion of any kind—and without furnishing any visible clue to a discovery of the immediate cause of death. A man fell from the mast-head on the deck of a small frigate, on the East-India station—when brought below, he was labouring under symptoms of concussion. In a few hours he expired. The examination of his head, after death afforded not the slightest trace * of any injury sustained by the brain. There was neither fracture nor extravasation.

In cases of fatal concussion of the brain from blows on the head, where the victim is generally knocked down and falls to the ground—it may be doubtful which caused the concussion—the fall or the blow: "When, in such cases, there is effusion of blood within the cranium, its situation, as corresponding with, or opposite to, an external mark or injury, from either the blow or the fall, may lead to an accurate conclusion." 36.

The doubts which have been raised in the criminal courts, respecting the possible fatality of blows on the head with the fist only, are completely set aside by the numerous cases which Mr. Watson adduces in proof of death having repeatedly taken place in consequence of such blows.

"In some of them it might be doubted whether the commotion and effusion of blood upon the brain were the effects of the blow, or (of) the fall received by the deceased when knocked down. But several circumstances tend to render it highly probable, if not certain, that the blow and not the fall was the cause. These are, first, such effects being very rarely if ever observed from similar falls without a violent blow at the same time; second, in most of the cases, the fall having been on soft ground; third, *the internal effusion of blood being generally found either at the place corresponding to the external mark of the blow, or on the side opposite to the external mark*, a circumstance which connects the effusion with the blow." 43.

Mr. Watson adduces the "insensibility, and failure of the *vis vitæ* which take place;—the hæmorrhage and softening of the brain observed in many fatal cases;—and the subsequent inflammation in cases of concussion, not immediately fatal," as all confirmatory of the view taken by him, that we are not to infer from the total absence in some cases of any observable lesion, the non-existence of such lesion, but the contrary. A proposition, the converse of which we incline to think is true—for insensibility and temporary failure of the *vis vitæ* occur in faintings, where there is confessedly no organic lesion in any part of the body; inflammations of other organs are not necessarily connected with previous lesions of those organs, and to infer that because hæmorrhage and softening of the brain are observed in some cases, something analogous, though invisible, *must* occur in all, is at once bad logic and indifferent pathology.

Extravasation of blood may destroy the patient who had sustained the violence of the shock of concussion, and was recovered therefrom. So may

* "Neither compression nor lesion, is necessary to the fatality of concussion, but it rarely happens that pure concussion induces a complete and continued suspension of the senses and voluntary motions. It is generally complicated in this case with extravasation or lesion of the brain, or its membranes, or both."
—*Travers on Constitutional Irritation*, vol. 1. p. 166.

inflammation, whether of the brain or its membranes—and so may the sequela of inflammation,—serous effusion upon the surface, and ramolissement of the substance of the brain.

The intervening time between the date of the injury, and its fatal termination is indefinitely various. In some cases, death being instant—in others, occurring after a few hours only have elapsed,—taking place after an interval of days in other cases—and in others again, being postponed for weeks, months, or even years. Pott and Abercrombie, have placed on record instances of life prolonged for weeks and months; and Serres mentions a case of concussion, in which the patient, after a blow on the back and side of the head, which stunned him at the time, became unsteady in his gait, and weak in his head; and subsequently, after about eighteen months, evinced increasing irritability of the nervous system,—and the well-marked progressive failure of his vital powers—for the left leg was, shortly after, paralyzed; the left arm became numb and weakened.

“On this account,” to adopt the language of Dr. Gordon Smith, “the consideration of injuries from wounds, &c. in a medico-legal point of view, was formerly a matter of much more intricacy than it is now. A person inflicting violence upon another was held amenable for the consequences during a year and a day; a most inconvenient principle of responsibility, and one particularly calculated to create confusion, to involve the innocent, and in many cases to allow the guilty to escape. A person’s death may be fairly traced to an injury, even though it may not take place for a much longer period than 366 days after that injury has been received; and on the other hand, one may die upon the receipt of a blow, and yet, that death has been thereby occasioned may not only be very doubtful, but even manifestly untrue.”—*Principles of Forensic Medicine*, 3rd edition, p. 254-5.

The post-mortem appearances, in general obvious, though subject to variations, are in severe cases, *extravasation of blood; separation of the dura matter from the cranium*, an appearance however which requires great caution in noticing it, as it may be imitated in the dead subject; *inflammatory effusions on the surface—effusion of fluid into the ventricles—and abscess, or softening of the brain*.

Extravasation of blood, however, so often happens within the cranium, irrespective of any external violence—as to lead to the important questions in cases of sudden death with suspicion of injury:—whether is such extravasation the result of violence? or of disease? or of strongly-excited passions and conflicting emotions? or of intoxication? or of the increased impetus given to the blood, in wrestling and struggling? or of the spontaneous rupture of a blood-vessel within the head?

γ. *Of injuries of the Spinal Chord;—and δ, of Injuries of the Nervous Ramifications from the Brain and Spinal Chord.*—These, in general, prove fatal, and immediately or remotely so, according to their situation, extent and character. Death is immediate in cases of deep penetrating wounds, or where the upper part of the chord is injured;—in wounds, or compression of the medulla oblongata: in all which cases the mortality is the result of arrested respiration, and circulation. It is delayed, but only delayed, not averted, where the lesion is superficial, and situated at a lower point of the chord; such cases giving rise to paralysis and insensibility of the body below the injury, and there again occasioning, according to Mr. Travers,

a feverish condition with depression, which, sooner or later, destroys the patient.

Sudden death is also a consequence of severe contusions inflicted on different parts of the body, such as blows on the pit of the stomach; and upon the abdomen, causing rupture of the viscera;—"contusions and lacerations of the extremities, particularly where the large joints have been crushed." The application of cold and heat alike, produce a similar result under certain circumstances. Professor Christian relates cases of sudden death from cold water received into the stomach of persons who were overheated at the time, and vice versa, instances of extensive burns may be adduced to shew a similar depressing effect produced by heat. In both, the cause of death is the same, a severe shock communicated to the sensorium through the nervous system depriving it of its wonted power over the animal functions. Homicide, moreover, has been perpetrated by the application of escharotics to the surface, as well as by fire. Of the former, this country afforded a melancholy spectacle a few years ago in the case of St. John Long of unenviable notoriety. The Quack, Morrison, has demonstrated to the entire satisfaction of a believing public, if not to that of an acquitting jury, that such an effect may also be occasioned by the random administration internally of drastic drugs. The same effect has been noticed, in tropical climates to follow a *coup-de-soleil*—and in all climates there have been cases of death by lightning.

"The depressing effect upon the action of the heart by a stroke of the sun, is similar to that produced by extensive burns. In such cases weakness of pulse, coldness, and other indications of collapse, have been observed. In other cases, and under more favourable circumstances, as relates to the vigour of the patient, and a shock of less intensity, an apoplectic state is produced, consisting of insensibility, with a full pulse and signs of turgidity of the bloodvessels about the head, accompanied with other symptoms of compression of the brain. Dissection in such cases has only shewn great increased fullness of the vessels within the head.

By the shock from lightning, individuals are sometimes instantly struck dead without any traces of its effects being apparent on the body. In some instances, however, there are marks like red stripes upon it; while in others, the viscera and other parts of the body have been found ruptured, the body peculiarly flaccid, and emitting a sulphurous or phosphoric odour.

When the individual struck by lightning is not killed on the spot, he is stunned, and the nervous system is affected from congestive apoplexy of the brain. From this he may die in seventeen or twenty-four hours, or if properly treated and the shock less severe, he may recover.

In cases of this kind, I am induced to consider the effects of the lightning owing to the short but intense impression, causing extreme excitement of the nervous system, suspending its functions, and thus bringing on a corresponding depression from which the individual does not recover. I have been led to draw this inference from the effects produced by a less violent stroke being those of excitement, and, in cases where the eyes are affected, of temporary suspension of the sensibility of the retina.

Different statements have been made as to the state of the blood in those who have been killed by lightning; some having represented that it does, others that it does not coagulate. In some cases it has been found issuing from the external openings of the body.

When, along with the appearances above-described, an individual is found dead after a thunder-storm, and particularly if metallic substances about him

are found melted, or his clothes burnt, death may be attributed to the effects of lightning, if no other cause for death can be ascertained."—*Watson, on Homicide*, p. 83-4.

To conclude the present important and valuable section of the author's work in his own language:—

"In all cases of injuries of the head, the prognosis should be very guarded, and carefully deduced from a consideration of all the minute particulars of the case. Great caution and discretion are peculiarly necessary, and of vast importance in a medico-legal point of view: for by the medical opinion given, the conduct of the public authorities is regulated, and upon it the fate of the prisoner depends. In some fatal cases, where no danger was at first apprehended, the prisoner has been tried for assault merely, and afterwards committed on a charge of murder. In other cases, the guilty person might escape altogether, from the authorities not being apprized of danger; while, on the contrary, the accused person might be doomed to the hardship of seizure and imprisonment without sufficient reason, be detained on groundless apprehensions, or prosecuted from an erroneous opinion given upon the case." 86.

VI.—OF HOMICIDE BY INJURIES OF THE CIRCULATING SYSTEM.

These are, excessive hæmorrhage;—extravasated blood pressing upon vital organs and impeding their functions;—aneurismal tumors;—inflammation;—the entrance of air into the veins;—and gangrene.

Death by hæmorrhage, from wounds of the neck, occurs less frequently in cases of homicide than of suicide. Yet murders have been committed in this way, "by wounds of the same kind, and in the same situation." It may occur without the larger vessels of the neck having been touched.

In wounds of the chest death sometimes takes place from the mechanical effect of the blood poured out from the wounded vessels into the cavities of the chest, and there interfering with the action of the heart and lungs.

"In this way the effusion of only a few ounces of blood into the pericardium proves instantly fatal, by its pressure upon the heart, which it surrounds. We have frequent opportunities of seeing illustrations of this, in the bursting of aneurisins of the arch of the aorta into the pericardium; as well as in the more rare cases of spontaneous bursting of the heart, and in some cases of wounds."—*Watson*, pp. 94, 95.

Wounds of the heart are not, of necessity, immediately fatal. Wounds of the aorta and pulmonary artery, are much more immediately and necessarily so. And still more so, wounds of the auricles, and coronary vessels. Sir George Ballingall, in his *Outlines of Military Surgery* (p. 327), goes the length of affirming that "*patients are known to have lived for some time after punctured wounds, even of the aorta!*" Hæmorrhage into the cavity of the chest, from wounds of the internal mammary, and intercostal arteries has, in some cases proved fatal. Hæmorrhage into the cavity of the abdomen and pelvis, from external wounds, has been attended with loss of life.

Death by hæmorrhage from wounds of the extremities has frequently occurred. The only cases we shall notice are those from wounds of the radial artery in performing the operation of blood-letting—and we do so for the benefit of our younger readers. Sir Astley Cooper places on record one

of a man, who was bled in the hospital by a young gentleman, who, in doing so, penetrated the above artery; "thirty-seven ounces of blood were lost before he could succeed in stopping it," no very great deal except in peculiar states of the constitution, and not enough to destroy the patient: "in three days the pressure caused so much pain that the man requested it to be lightened; this was done and the bleeding returned; *at the end of the week* one of the surgeons deemed it prudent to secure the vessel, and he did so at the part where the wound had been made; the operation took an hour in performing, and it was excessively difficult to find the vessel. On the following day there were much irritation and inflammation, and on the tenth day from the accident he died!"—*Sir A. Cooper's Lectures*, p. 177.

Upon this case, it might have been made a question whether the carelessness of the young gentleman, or the tardiness of the old surgeon to repair the mischief done by his pupil, was most culpable. The death of their joint victim was an instance of homicide from improper treatment on the part of the professional attendant; a rare one, we both hope and believe, but not a solitary one we also know.

Air admitted into the veins, reaching to the heart, and circulating to the brain, in that way produces death from wounds of the larger vessels, when, the hæmorrhage from those vessels has not sufficed to destroy life. Mr. Watson cites only one case on the authority of Dr. Handyside, in support of this view—a case ~~is~~ itself extremely interesting but incomplete, and from its incompleteness, inadequate to the purpose for which it is quoted. It is one of suicide. A clergyman cuts his throat with both hands—one wound is two, the other four inches long—by the former, the trunk the spinal accessory nerve, the conjoined origin of the occipital and posterior auris arteries, and the posterior facial vein are cut—yet "very little blood appeared to have been lost:"—by the latter, the transverse process of the atlas, the vertebral artery, the spinal accessory nerve, the external and internal jugular, the anterior and posterior facial veins, and the posterior auris artery are exposed. The facial artery slightly opened. Some globules of air were found to have entered into the internal jugular vein.

"By dividing the parts carefully under water, Dr. H. found air to escape from the cavities of the heart and large vessels connected with it, by which these parts had been moderately distended, but contained very little blood, and that in a frothy state. The veins of the liver and spleen also emitted air when they were divided under water."

The medico-legal questions connected with this section are,

1st. DID THE INDIVIDUAL DIE OF HÆMORRHAGE?

In order to prove the affirmative, it is requisite that the wound should have taken place during life—that the blood should have coagulated—and that such vessels were wounded as sufficiently to account for a fatal hæmorrhage—or that the wounded part was in a high state of vascularity.

2nd. IS THE COLOUR BY WHICH THE CLOTHES, FLOOR, AND OTHER NEIGHBOURING SUBSTANCES ARE STAINED, THE EFFECT OF BLOOD? If of blood, it will be readily extracted by cold water, and the question decided by adding a solution of ammonia to the reddened water—the red colour of blood will alone remain unchanged by such solution. Or, "by boiling a watery solu-

tion of blood in a test-tube, the red is changed to a dirty greenish colour, and coagulated albuminous flakes appear mixed with the fluid."

3rd. In cases of mortal wounds of the heart, could the individuals have moved from the spot after receiving them, or must they have immediately fallen?

4th. If the patient did not fall immediately, would he, when he had fallen, be able to rise again?

VII. OF HOMICIDE BY INJURIES OF THE RESPIRATORY SYSTEM.

Death is produced in these cases by asphyxia—inflammation—and a combination of both.

Death by asphyxia may take place in a variety of ways, by suffocation, strangling, hanging, smothering, drowning, and intoxication.

Suffocation may be accidental, as when foreign bodies lodge in the larynx; or the head of a drunkard is placed in an unfavourable position, with his nose and mouth pressing upon the pillow; or it may be effected criminally, by securing the nostrils and mouth with the hands.

Strangling and *hanging* differ from each other only in the act of suspension in the last; both are occasioned by compression of the windpipe. Death by strangling, and also by hanging, may be accidental, self-inflicted, or the deed of a murderer. By the former it has been effected in some cases without leaving any marks on the neck—while, on the other hand, natural appearances have been mistaken for marks of strangulation. As death by hanging, we mean judicially, is likely to become a rare case in this country, we defer, for the present, any notice of the many curious facts brought together by Mr. Watson when considering the effects of that injury upon the human body. It is rarely the act of another, except as a punishment for crime:—the possibility of the case, however, has been shewn in the trial of a woman in Edinburgh, who fastened a ligature round her husband's neck, when asleep, and then drew him up. In cases of death by hanging, the medico-legal questions are:

First. Is it accidental—suicidal—or homicidal?

Secondly. Where a corpse is found hanging—was his death occasioned by hanging? or, was he first murdered and afterwards suspended?

For the answers to these highly important questions we must refer our readers to the work of Mr. Watson; regretting exceedingly that the length of this review, and the limited space remaining to us, preclude their transfer to our own pages.

Death by drowning is more frequently accidental, than death by either hanging or strangling—it is also a common form of suicide—and only rarely a homicidal act:

"Under peculiar circumstances, very little water suffices to cause death. Several instances have happened of individuals having been drowned by falling, when intoxicated, into a ditch, with their faces immersed in a puddle of a very shallow description. A short time ago, a gardener at Dalry, near Edinburgh, stooped his head into a large barrel from which he wished to withdraw a pail of water. He overbalanced the lower part of his body and fell head-foremost into the barrel, where he remained, from being unable to extricate himself, and was found quite dead. In another case of this description, a man who lived in

the Canongate, by a fall on the floor, was said to have got his head so fixed in a common iron pot, that he was suffocated." 147.

The questions to determine in cases of persons "found drowned" are.—First—Whether the person died by drowning at all, or, was murdered first, and afterwards thrown into the water? and

Secondly—When death has been occasioned by drowning, was it suicidal or homicidal?

With respect to the first enquiry—what are the evidences of death by drowning? and are they always or altogether present? So far from being constant—persons have been drowned whose bodies presented no unusual appearances. And when present, they may in some cases, arise from other causes. Water in the air-passages—and froth conjoined with it—and water in a considerable quantity in the stomach, are strong presumptive proofs of death by drowning. The evidence upon which the proof of murder may be established is not medical—indeed, the science of forensic medicine supplies us with no means of answering the second inquiry.

Asphyxia may also be occasioned by *compression*, or *wounds of the thorax or lungs*—by injuries of and foreign bodies in, the larynx, trachea—and bronchial tubes. This last sort of accident is common to children, but has given rise to suspicion of homicide, and thereby endangered the innocent lives of others, on which account an examination of these parts becomes necessary in cases of death by asphyxia, from supposed external violence.

There is yet one more form of death by asphyxia, requiring to be noticed, especially in this gin and beer drinking age of the world, when more quarrels are fomented and concluded over a pot of "heavy wet" or a quartain of "blue ruin," aptly so called, than the readers even of the Sunday newspapers and slang chronicles have any conception of. Asphyxia from *excessive intoxication* is often accompanied with wounds and bruises giving rise to suspicion of murder, it is unnecessary to state that such concomitants may have been occasioned by accidental falls, without the infliction of any injury whatever by another person. Intoxication induces asphyxia by producing insensibility.

"This is well seen in cases of poisoning by opium, or, ardent spirits. When the patient becomes insensible, the breathing becomes remarkably slow, there being only two or three respirations in a minute; the pulse also becomes less frequent than natural; the surface of the body and the extremities become cold, and a state of complete collapse supervenes. From this state the patient may recover if the dose has not been very large, and when proper treatment is employed. But if the patient is without the necessary aid, and more especially when he is exposed to cold, death soon takes place, but in a gradual manner, by coma. In some individuals an apoplectic state is induced, in which the patient lives a few hours and then dies." 169.

The absence of spirits from the stomach is no proof against their being the cause of death; for, before the system can be effected, the spirits must be absorbed, and though the stomach be void of these, they will probably be found in the ventricles of the brain. The presence of spirits in the mouth, is on the other hand, no evidence that death has been occasioned by the excessive use of them—they being frequently given by attendants to restore animation.

The concluding remarks of Mr. Watson, on death by intoxication contain

matter for the consideration of society in general, and of governments in particular, which we can neither persuade ourselves to abridge, nor to omit:—

“I have repeatedly had occasion,” he writes, “to observe the reckless want of consideration on the part of publicans, for any thing, but their own avaricious objects, in supplying young and intoxicated persons with excessive quantities of ardent spirits, quite regardless of the consequences to which it may lead. *In more than one case, I have known intoxicated persons admitted into these shops, from which, after having been supplied with spirits and paid their money, they have been inhumanly turned out at night to the street, and the door locked upon them. In the morning they were found dead, having perished, no doubt, from excessive intoxication and exposure to cold.* When such cases as these, or of the regardless supply of spirits to young persons, occur and are made known to the public authorities, humanity certainly calls for some punishment upon the offender. The very common use of spirits, and other intoxicating liquors, without being followed by any fatal effects, has no doubt a tendency either to prevent or banish from the mind any idea of danger from the practice, yet their poisonous and fatal effects, when taken in excessive quantities, are not less certain, and ought to be generally made known to the public. It is not uncommon for the lower orders to ascribe the fatal effects of spirits to what they please to term ‘*bad drink*,’ when, if I mistake not, its only and greatest fault is, its having been too strong, and considered too good by its infatuated victims. Hence arises the very singular circumstance of the poisonous effects of an article of luxury in common use, and a crime arising from its being given in improper quantities.” 177.

Contusions and fractures of the ribs, and wounds of the pleura and lungs, also prove fatal from their depressing the vital powers by the violence of the shock which the constitution receives from them, or from their inducing inflammatory fever. Such injuries are more or less mortal, as the subjects of them are more or less temperate, and in sound health; these modifying circumstances, requiring, of course, to be taken into consideration by the medical jurist, in every case of death after injuries like the above. Numerous cases are on record of the immense violence sustainable by the chest as well as other parts of the human body without its issuing in death. The case of the young nobleman, whose heart the celebrated Harvey handled in the King’s presence through an open wound in the chest, is one of the most remarkable, and we have ourselves witnessed cases of thoracic injury from gun-shot wounds, where ribs have been broken and lungs lacerated, with very considerable subsequent inflammation and fever, but with ultimate recovery. If we err not, Mr. Rutherford Alcock had several such cases under his care in Spain, the recovery of which was principally owing to the unremitted care and attention of their professional attendants.

VIII. OF HOMICIDE BY INJURIES OF THE NUTRITIVE SYSTEM, AND ORGANS OF REPRODUCTION.

This may take place *without lesion of the internal organs, and without inflammation*, as in the case of blows inflicted on the region of the stomach—and *with lesion of the internal organs, but without inflammation*.

To adopt the language of Mr. Travers, “certain forms of mortal injury are productive of sudden, excruciating, and unremitting pain, such as

ruptures of the stomach, gall and urinary bladders. Death ensues in these cases many hours sooner than where the pain is less intense, and before the morbid changes which take place in consequence of the injury are so far established as to make it credible that the result is to be ascribed to their influence." Other injuries prove fatal *from supervening inflammation*, without lesion of internal parts; and others *by inflammation from lesion of internal parts*, generally rapid in its progress, and productive not only of increased vascularity, but also of inflammatory effusion "consisting of bloody serous fluid and flakes of yellow matter, both floating in the fluid, and coating the peritoneal surfaces. A feeble pulse, sense of depression, look of exhaustion, a cold surface and colder extremities with collapse, evince a reduced action of the heart, the effect of the shock communicated to the nervous system—and this is perhaps the most striking feature in these cases.

But here we must bring our notice of Mr. Watson's very valuable work to a close. There remain four chapters untouched: the IXth, "Of the circumstances which modify the Medico-legal Character of Wounds and other Injuries." Xth. "Of the Medico-legal Examination of Wounds." XIth. "Of Concealment of Pregnancy and Infanticide." and, XIIth. "Of the Exculpatory Plea of Insanity in Cases of Homicide." Nor have we left ourselves room to notice them further than by a word of general commendation, applicable to each and merited by all.

We have seldom met with a work of greater merit than that now reviewed. It is clear, concise, compendious, and rich in facts. We hail its appearance as the dawn of a better day in medical literature, for there is not a particle of book-making in the whole volume. We recommend it to the perusal of our readers as full of important matter—the more attentive their perusal, the higher will be their recompence.

But, as a review without fault-finding, would be as great an anomaly in the art of criticism as a book without fault in the craft of authorship, we will just remind our author that in some places his writing is loose, not self-consistent, and even contradictory—while in others, he occasionally, although very rarely, cites cases to prove a proposition, which fail in doing so, being impertinent and irrelevant.

We now take our leave of this experienced surgeon and talented writer, with an expression of unfeigned respect and gratitude for one of the most important contributions to the science of medical jurisprudence with which we are acquainted. And as we are persuaded his object has been, and is, to promote the cultivation of that science, among the present and future generations of medical jurists, we would take the liberty of recommending that his next edition be printed in another and cheaper form for the benefit of students. And one way of effecting this might be, by printing all the cases, 238 in number, in small type, and such of them as were previously before the profession in other publications, in a smaller type still. The expense of the volume would, in that way, be diminished one half—and its circulation increased four-fold. We earnestly recommend this plan because we are sincerely of opinion that it deserves to be on the table of every medical jurist, and in the hand of every medical student in the three kingdoms.

ON DISEASES OF THE BLADDER. By *William Coulson*, Surgeon,
12mo. pp. 153, London, 1838.

Mr. Coulson is already well known to the profession, by his works on Diseases of the Hip-joint, and on the Deformities of the Chest and Spine. An indefatigable and able surgeon, his works are marked by a free spirit of inquiry, and an accurate acquaintance with pathology.

His object, as he states in the Preface to the present volume, has been to establish clearly, the distinction between the inflammatory diseases which attack the several coats of the bladder. It has appeared to him important that these affections should not be confounded under the general character of inflammation of the bladder, as not only are they distinguished from one another by their symptoms and progress, but as each of them requires an essentially different treatment. He has also treated of Irritation, Paralysis, and some other affections of the bladder, connected, as they are, with inflammation of the organ.

The volume is made up of ten Chapters. These are successively devoted to the consideration of:—Irritability of the bladder—Paralysis of the Bladder—Acute Inflammation of the Mucous Membrane—Sub-acute Inflammation of the Mucous Membrane—Acute Inflammation of the Muscular Coat—Chronic Inflammation of the Muscular Coat—Inflammation of the Peritoneal Coat, and of the surrounding Cellular Tissue—Fungus Hæmatodes and Cancer of the Bladder—Foreign Bodies in the Bladder.—Operation for Stone—Wounds and Injuries of the Bladder.

1. IRRITABILITY OF THE BLADDER.

Mr. Coulson very properly limits the application of this term to a frequent and often irresistible, desire to void the urine, sometimes, but not always, attended with pain, and not arising from inflammation, or any of the organic affections, of the bladder or prostate gland.

We need not particularize the symptoms of the disorder. The aggregate quantity of water passed does not much exceed that of a person in health—that quantity being calculated by Rye to amount, on an average, to forty, and by Dr. Prout to be thirty-two ounces in the course of the twenty-four hours.

In hysterical patients, the quantity is often considerable, and possesses the peculiar character designated by Dr. Bostock 'Aqueous', containing less than the usual proportion of solid matter, without any other change in the nature or relative quantity of its constituents.

Mr. Coulson has, in one instance, examined the body of a patient who laboured under this affection, and who was carried off by disease of the lungs. There was no appreciable alteration in the appearance or structure of the bladder or of any of the urinary organs.

"After long continued irritation, the bladder becomes diminished in size, and instead of containing a pint or upwards, it is incapable of holding more than two or three ounces at a time. Notwithstanding this contracted state of the

bladder, if there be no stricture or disease of the prostate, its parietes are often thinner than natural." 4.

The causes of irritability of the bladder are numerous. Sometimes they are of an obvious character—such as pressure of the womb in pregnancy, stricture of the urethra, foreign bodies in the bladder. After the operation for stone, the bladder often remains in an irritable state.

Derangements of the digestive organs, by altering the constitution of the urine, not unfrequently give rise to irritability of the bladder. Thus, adults and children, more particularly, are, from eating fruit, very liable to this affection in the Summer. The urine, in these cases, contains an excess either of lithic acid, or of lithate of ammonia. For the same reason, gouty and rheumatic persons are subject to it. Mr. Coulson relates a case of this kind—a case by no means rare.

Case. "A gentleman, forty-two years of age, and subject to rheumatism; applied to me on the 11th of February, 1837, on account of a very frequent desire to pass urine, from which he had suffered for several years. There was a scaly eruption on several parts of the body, particularly about the elbows and knees, and he often felt severe pains in the hips and loins. The urine was very acid and scanty. I ordered him the following mixture:—*R. Infus. Diosmæ* ʒxv; *Tinct. Hyoscyam.* ʒij; *Potass. Bicarb.* ʒiss; *Extract. fluid. Sarsap.* ʒiv; *Cap. coch.* ij. *vel* iij. *ampl. ter in die.* And I gave the following pill at bed time: *R. Pil. Hydrarg. gr. iij; Pulv. Rhœi. gr. ij.* On the 3rd of March, the irritability of the bladder was much lessened, and the eruption improved. I then gave the decoction of the *Pareira Brava* in the day, with a grain of the acetous extract of colchicum at bed time. His complaint was much relieved, but not cured." 7.

Last year we attended a troublesome case of the same description. The patient was a young Oxonian, of indolent habits, and rather sedentary in his pursuits. The irritability of the bladder was considerable, and he suffered from so much pain in the urethra that we twice sounded him, with the suspicion that the bladder contained a stone. The urine was very acid, on two or three occasions small particles of red sand had been passed, there was a disposition to acné, the habit was leuco-phlegmatic, and both parents had suffered from gout or rheumatism. This gentleman had been for some months under the care of the medical attendant of the family in the country, and had derived some but not material benefit from his remedies. We prescribed cupping on the perineum—the occasional use of the warm bath—regular exercise and regimen—regulations of the secretions by small doses of the blue pill with ipecacuanha, and alkaline aperients with colchicum. We tried the *uva ursi* and the buchu, but the liquor potassæ with tincture of henbane, and the blue pill with alkaline aperients, combined with occasional recurrence to cupping on the perineum, were successful, after two or three months, in subduing all the symptoms.

"Sometimes it is produced by taking for too long a time alkaline remedies; and, in this case, the urine is of course alkaline. I was consulted for irritability of the bladder by a gentleman, whose urine was alkaline, but whose appearance and state of constitution did not at all lead me to expect this condition of the urine. On inquiry, I found that he had for a long time been taking the sesquicarbonate of soda in large doses. I ordered him to discontinue the use of this medicine, and he soon recovered. The altered state of the urine is the immediate cause of this complaint; and, in these cases, the condition of the urine should especially engage our attention." 5.

The fact is, that alkaline as well as acid urine, stimulates the bladder, and gives rise to irritability of the organ. Some persons have, without any obvious state of disease, a condition of urine either neutral or slightly alkaline. These persons are never strong, and in too many instances, organic disease of the kidneys succeeds. Slight causes produce in such persons an alkaline state of the urine, and whenever this obtains they have irritation of the bladder.

Independently of an acid or an alkaline condition of the urine, irritation in the bowels will induce irritation in the bladder. Hæmorrhoids, scybala in the colon or rectum, even irritants in the stomach and the small intestine, will give rise to this sympathetic state of the bladder.

Mental emotions occasion the disorder. More physical affections of the nervous system do so too. Sir B. C. Brodie alludes to this fact. "An elderly man, for example," says he, "complains of frequent attacks of giddiness. In walking, his head turns round, so that he is in danger of falling; and this symptom probably arises from an altered structure of the arteries of the brain, causing an imperfect state of cerebral circulation. Not unfrequently this is attended with an irritable state of the bladder; and although the urine is of a healthy quality, and the bladder itself is free from disease, the patient is tormented by a constant micturition, voiding his urine without pain, but at short intervals, and in small quantities at a time."

"I have known," says Mr. Coulson, "irritation supervene on paralysis of the bladder. A gentleman, during an attack of typhus fever, nine years ago, was seized with an inability to pass urine, requiring it to be drawn off twice a day. However, as he gained strength, the power of voiding the urine returned, but the desire to pass it became then so frequent as to compel him to go every half hour. He consulted me for this symptom on the 25th of November, 1835. There was no disease in the urinary organs and his general health was good, with the exception of occasional rheumatic attacks. The urine was very acid and scanty. I ordered him a grain of the acetous extract of colchicum at night, and ten grains of bicarbonate of potass, seven of sesquicarbonate of soda, and four of the nitrate of potass, twice or three times a day, soon after his meals; and by these means the urine became more abundant and less acid; but the frequency of passing the urine continued the same. I then tried the infusion of diosma, the decoction of the Pareira Brava, and various preparations of steel, for the relief of his symptom, without success." 9.

Disease of the kidney, even irritation of it, not unfrequently produces excessive irritation of the bladder. The symptoms of the affection of the kidney may be masked, or rather irritability of the bladder may be its only symptom. Unless the urine is altered in its qualities, there are no means of determining the renal origin of vesical irritation. In some instances, the urine is so altered, and albumen may be found in it by the usual re-agents. Morgagni has recorded a case of this kind, and Dr. Prout and Sir B. Brodie have strongly drawn attention to it. Mr. Henry James Johnson has published some cases of the same description, and altogether, the body of evidence on this point is both considerable and conclusive.

In some instances, it is difficult to say on what cause the complaint depends. Mr. Coulson relates a case of this description, and there are few surgeons who have not seen similar ones.

Case. "A gentleman, sixty-five years of age, of a good constitution and regular habits, consulted me on the 4th of December, 1835, on account of a very

frequent desire to pass his urine, unaccompanied with stricture or disease of the prostate, or any other affection that I could detect. Thirty years ago he applied to Mr. Jesse Foot, for the same complaint; and the lotura vesicæ was then tried on him without any relief. This symptom has continued ever since, being aggravated in cold weather, and on any excess in living or derangement in the health. In other respects, he is quite well." 11.

Treatment.—Irritability of the bladder being a complaint produced by various causes, it is indispensable to endeavour to detect the cause in every individual case, and, having detected, to remove it. The treatment of the disorder must consequently vary, and no single plan can apply to all forms of it.

a. In gouty and rheumatic subjects, where the urine is generally acid and scanty, and red sand is often passed, the alkalies should be administered; and a good form for their exhibition is a combination of the potass, soda, and nitre. Mr. Coulson subjoins a formula for this:

"R. Bicarb. Potass. ʒj.; Sesquicarb. Sodæ, ʒvj.; Potass. Nitrat. ʒij. As much of this powder as can be put on a sixpence, to be taken twice or three times a day, in water, soon after a meal."

Dr. Prout, as is well known, recommends the carbonate of potass, in preference to the carbonate of soda, because the soda, under certain circumstances, enters into combination with the lithic acid, forming an insoluble salt, as bad as the lithic acid itself, whereas the lithate of potass is perfectly soluble, and if this combination should take place, it will pass off dissolved, in the urine. We have found the combination of the liquor potassæ with nitrate of potass, and infusion of rhubarb answer well. Mr. Coulson proceeds to remark that the acetous extract of colchicum is an useful addition to the alkalies. The dose may be from one to two grains in the form of pill, at bed time. Not a bad mode, we think, of exhibiting colchicum is in combination with the sulphate and carbonate of magnesia, or, in the common seidlitz draught. If, as often happens, the digestive powers are weak, some light bitter infusion may be given before meals.

"In these, and indeed in all cases, the strictest attention should be paid to diet; vegetables and fruit should be avoided, as well as wine, spirits, and all fermented liquors. In some constitutions, notwithstanding the acid state of the urine and the deposition of a large quantity of the lithate of ammonia, the alkalies disagree, producing restlessness, giddiness, and uneasiness about the region of the stomach.

I recently saw, with Dr. Prout, a gentleman who had great irritability of the bladder and whose urine was very acid and deposited great quantities of the lithate of ammonia, but who could not bear even small doses of alkaline remedies." 15.

b. Mr. Coulson goes on to remark that, if the patient is of a nervous temperament, and the urine alkaline, a different plan must be adopted.

"The dilute mineral acids,† combined with the decoction of Parcira Brava,

* "In such cases the following mixture may be given. R. Spirit. Ammon. Aromat. ʒij.; Spirit. Æther. Nit. ʒij.; Tinct. Hyoscyam. ʒij.; Mist. Camph. ʒv. A fourth part to be taken three times a day."

† "R. Acid. Nitric. dil. ʒj.; Acid. Muriat. dil. ʒss.; Aquæ distillat. ʒviij. Two table spoonfuls to be taken three times a day."

should be administered, and every thing that has a tendency to lower the system, as attention to business, study, or anxiety, should be studiously avoided. In other cases, where the urine is neutral, the Extract of the Uva Ursi,* combined with extract of Hop or Hyoscyamus, may be taken, with opiate suppositories,† or injections with some drops of the Liquor Opii Sedat. according to the severity of the symptoms, may be administered. The decoction of Uva Ursi,‡ and the infusion of wild carrot seeds,|| will occasionally give great relief. But, in my experience, no medicine has been so often successful in irritability of the bladder, as the Diosma in the form of an infusion § I could cite several cases, where it has succeeded after other medicines had failed. A young gentleman, æt. 21, applied to me, May 25th, 1834, on account of an affection of the bladder; and said that, for the last eleven or twelve years, he had experienced great difficulty in retaining his water for any length of time, being obliged to leave any company in which he was, once or oftener in the hour. The moment the desire to pass the urine came on, the water passed away involuntarily, unless the desire was immediately complied with. This irritability of the bladder was always very much aggravated after taking malt liquors, wine, spirits, and on exposure to cold, and had considerably increased during the last twelve months. He was very susceptible of cold, complained of pains down the inside of the thighs, but he had no pain in the region of the loins on pressure nor over the bladder, and his general health had not suffered. The urine was light colored, and neutral in its character. After trying the various preparations of steel, the decoction of the Pareira Brava, henbane in different forms without success, I ordered the infusion of Diosma, which he took for some time with great benefit." 17.

We may add our testimony to the value of the buchu in many cases of irritable bladder. We have found it of service in cases where the urine was acid, as well as in those where it was alkaline. We have also found it useful in cases which we have suspected to be incipient disease of the kidney. The patient has extreme irritability of bladder, the urine is acid, straw-coloured, and rendered slightly opaque by nitric acid—no disease can be detected in the bladder—there may or may not be some pain in the region of the kidney—and the general aspect is that of impending, if not actual organic disease. In such cases we have seen very marked advantage from regulation of the secretions, the infusion of buchu with henbane and perhaps alkalies, and local depletion or counter-irritation.

We cannot say that we have found as much benefit from the uva ursi, as other surgeons have derived from it. We have prescribed it, and we have

* "R. Extract. Urvæ Ursi. gr. v. Extract. Humuli vel Hyoscyam. gr. iij. Two pills to be taken three times a day.

† "R. Pil. Saponis cum Opio, gr. vij. To be introduced within the rectum at bed time."

‡ "R. Folior. Uvæ Ursi ʒj.; Aquæ ferventis ʒxx.; coque ad ʒxvj. A third part of a pint to be taken three times a day."

|| "R. Seminum Danci Contusorum ʒj.; Aquæ ferventis ʒxvij.; Macera per horas iv.; dein cola. A third of a pint to be taken three times a day.

§ "This is to be prepared according to the formula in the London Pharmacopœia. If there be scaly eruptions, and the urine very acid, the following form will be found of service: R. Infus. Diosmæ ʒvij.; Potass. Bicarbon. ʒj.; Tinct. Hyoscyam. ʒiss.; Extract. Fluid. Sarsap. ʒiv. Two table spoonful to be taken three times a day. If the urine be not very acid, the alkali must be omitted."

concurrent with the prescription of it in consultation, but we have usually been disappointed in its operation.

Mr. Coulson does not allude to cupping on the perineum, but we have seen advantage from it. We have seen, too, the warm bath serviceable, as well as the external application of opium and of belladonna.

On the whole, we should say, from what we have seen, that cautious local depletion—sedatives administered by the mouth, by the rectum, and by the skin—the buchu—alkalies in most instances—and regulation of the secretions—are the remedies which we have seen of greatest service.

c. Mr. Jesse Foot recommended the injection of warm water into the bladder in cases of irritability of this organ. We have tried it in three or four instances, but cannot say that we found it of advantage. We have tried the injection of aqueous solutions of opium, of an aqueous solution of conium, and, in one instance, of a weak solution of the extract of belladonna. We thought that all were of a little service at first, but, after a time or two, the operation was rather productive of irritation than otherwise.

d. In the irritability of the bladder, says Mr. Coulson, which is met with in young females, just at the time when menstruation may be expected, or when some irregularity in this function has occurred, the preparations of iron are of great service. The ammoniated or the muriated tincture of iron, given in some light bitter infusion, will be found serviceable; and if the bowels be costive during the use of this remedy, the compound decoction of aloes should be daily administered. The bowels should be kept well open, for the symptoms of the disease are invariably aggravated when the bowels become costive. If there be much hysteria, the tincture of valerian, combined with the vinum aloes, may be also tried with benefit.

We have seen the shower bath very useful in checking the irritability of bladder which occurs in nervous girls, in combination with "hysterical" symptoms. The surgeon should always discourage the idea of attributing importance to the malady. To pay much attention to it, is often to aggravate it.

"Incontinence of urine in children usually depends on an excitable state of the bladder, or an altered condition of the urine: It occurs during sleep, and the urine is often passed off voluntarily, under the influence of a dream. In other cases it is more of a passive character, and passes involuntarily. In some cases, this involuntary passing of the urine continues by day as well as by night, and then the patient suffers more or less from this complaint during the remainder of his life. In such cases the children should be waked up in the night, twice or oftener, for the purpose of passing the urine; and they should not be allowed to take late meals or much liquid for some time prior to retiring to rest. In fact, they should not, at any time, be allowed to take much liquid. Lying on the back in bed tends to keep up this complaint, and should be guarded against. Cold bathing, preparations of iron, and other tonics, will be found of great use. If the complaint continues after puberty, the tincture of cantharides is often very serviceable."

It is frequently connected with a weak and scrofulous state of constitution; and in these cases, all remedies are often unavailing. I lately saw a child six or seven years old, with a large head, pale countenance, bad teeth, prominent sternum, large abdomen, and emaciated extremities, who had suffered from incontinence of urine from its earliest infancy. All kinds of remedies had been tried without any success. I may just observe that, in this case, as well as many others, there was great irritability of the bladder during the day-time, and, unless

the desire to pass the the urine was attended to, it flowed off involuntarily. The urine was very acid.

Incontinence of urine is sometimes the effect of stricture in the urethra and will subside on the cure of the stricture. In other persons, particularly stout females, the urine will flow involuntary on lifting a weight, or coughing, or any violent exercise. In these cases there is no pain, no blood in the urine, no desire to make water often, simply the involuntary flow on exertion, the action of the diaphragm, and abdominal muscles overcoming that of the sphincter of the bladder. In females, it often occurs after distention of the urethra for the extraction of calculi, or foreign bodies, and occasionally after difficult labours." 21.

Incontinence of urine in children usually disappears, so far as we have seen, with growth, independently of the exhibition of medicines. But in troublesome cases, we have seen the greatest benefit from the tincture of cantharides. We had lately under our care a lad of 17 years of age, who had laboured under incontinence of urine since infancy. Many remedies had been tried, but none had been of use to him. We prescribed the tincture of cantharides, beginning with a small dose, and gradually increasing it to a drachm thrice daily. This cured the patient in the course of four months.

On the whole, we would say that the study of the causes, and the determination of the treatment of irritable bladder, are of great practical consequence. We recommend the subject to every surgeon who is anxious to be successful in his management of a troublesome disorder.

II. PARALYSIS OF THE BLADDER.

We need not dwell on the symptoms. We may remark, however, what has indeed been frequently remarked before, that when the bladder becomes exceedingly distended, the urine usually dribbles away, and the complaint may be mistaken for incontinence. Mr. Lawrence relates a case so much in point that we extract it.

Case. "It happened to me, a good while ago, to be sent for, to see a gentleman labouring under an affection of the bladder; and the medical attendant who had lately seen him, mentioned that the case was one of great irritability of the bladder—that it would hold no water at all—the urine passing off as fast as it came into it. He said he had been doing all he could to get the natural power of retention of the bladder restored; he had directed the patient to take diluent fluids; in short, he had done all he could to prevent it; but still the water ran off. It appeared to be a singular case. I put my hand under the clothes upon the abdomen; and I felt the fundus of the bladder forced up a good way above the umbilicus; I said I had brought a catheter with me, and that I might as well introduce it, to see if there was anything in the bladder. I introduced it; and about five pints of urine immediately flowed off. The fact was, the bladder had been allowed to distend in this way for about five days before I saw him; and the consequence was, that that gentleman never recovered the natural power of emptying the bladder afterwards; but he, after a certain time, acquired the art of introducing the catheter, which he still employs. He can introduce it, and let off the water whenever he finds a desire to do so; but he never has been able to empty the bladder by the natural powers since that time." 30.

The causes of paralysis of the bladder are examined in detail by Mr. Coulson.

a. Injuries or diseases of the spine are a common cause of it. In some cases the urine becomes highly acid. In the majority of instances, it grows extremely alkaline, is voided of an ammoniacal odour, and deposits, when cooled, a large quantity of adhesive mucus. After some time phosphate or lime is detected in it, and the mucus is tinged with blood, which subsequently appears in larger quantity and coagulated. It admits of question whether the urine is secreted alkaline by the kidney, or becomes alkaline in the bladder. The matter is undecided, though it is of consequence to determine it. If the change occurs in the bladder, the regular evacuation of the latter by the catheter may prevent the alkalescence and its consequences.

b. Diseases of the brain operate, we may suppose, in a similar manner with injuries and diseases of the spine in producing a paralytic state of the bladder. The complaint, as Mr. Coulson observes, often attacks elderly persons, particularly gouty and rheumatic subjects, and is the result of general diminution of muscular and nervous power, the bladder being incapable of obeying the will with the same facility as before, and being less sensible to the stimulus of the urine.

c. Neglecting to expel the urine when it is accumulated is another cause of paralysis. A person, says Mr. Coulson, not being conveniently situated for emptying his bladder, neglects the first call, and allows it to become distended; the desire perhaps goes off; a large quantity of water accumulates; the bladder rises up to the umbilicus, or even higher; and when he attempts to empty it, he finds he is totally unable to do so, and that he cannot void any water at all.

Patients ought never to resist the first desire to make water; for, in not obeying this inclination, the bladder distends; the elongated fibres lose more and more their sensibility; the desire to make water passes off; the retention, which, in the commencement, was only partial, then becomes complete; and there is no stimulus sufficiently strong to excite the bladder to expel the urine which it contains.

d. Paralysis of the bladder not unfrequently occurs in persons under thirty-five or forty years of age, whose constitutions have been seriously impaired. The patient, perhaps, complains of pain in the head, or some part of the back, weakness in the loins, and inability to walk firmly, flatulence, or a sense of fulness in the region of the epigastrium, and he looks and feels as if threatened with some impending mischief. If these symptoms be not relieved, paralysis of the lower extremities follows, and his bladder partakes of the affection. Mr. Coulson states that he has known paralysis of the bladder occur where the state of health was good.

"With Mr. Dunn, of Norfolk Street, I, last year, attended a gentleman, about thirty years of age, extremely nervous, who had been labouring under considerable mental excitement. We were sent for to this gentleman, suddenly, on account of retention of urine: the urine was drawn off by the catheter, and this was repeated twice a day for ten days, at the end of which time the power of the bladder returned and he was able to make water himself. The retention arose entirely from a paralysed state of the bladder, owing to diminution of nervous power: there was no stricture, or gonorrhœa, or local impediment, to the passage of the urine." 33.

e. Paralysis of the bladder may result from severe injuries of the lower extremities. It is not difficult to explain the fact of its occasionally following the operation for hemorrhoids.

f. It now and then happens from the use of opiate suppositories or injections.

g. Pressure on the urethra or neck of the bladder may give rise to it. It may consequently be occasioned by distention of the rectum, however induced, by abscess near the neck of the bladder, by various tumors in the pelvis. Mr. Coulson dwells on the effects of retroversio and prolapsus uteri upon the bladder.

"There are two periods in pregnancy when women are particularly exposed to retention of urine—about the fourth month of pregnancy, and at the time of confinement. To have an exact idea of this state, it must be recollected, that in the first month, as before conception, the womb continues concealed in the pelvis; that it does not mount above the cavity till the fifth month, and sometimes even later; that until that time, its size and weight having progressively increased, it descends lower towards the vagina, and in the manner of a wedge, presses posteriorly the rectum, and anteriorly the neck of the bladder, and the urethra against the symphysis of the pubes, even to such a degree, as to stop the opening of this canal.

The displacement of the viscera, which so often gives rise to retention of urine are retroversion of the womb and prolapsus of this organ, of the vagina and of the rectum. If we examine the intimate connexion of the bladder both with the womb and vagina in the female, and with the rectum in the male, it is clear that the parts cannot be displaced without drawing with them the bladder; and that, in this displacement, whatever may be the contractile force, it cannot entirely expel the urine which it contains.

In the prolapsus and retroversion of the womb and vagina, and of the rectum, the posterior part of the bladder, instead of being carried upwards and forwards, is drawn downward and backward, and the curve of the urethra is entirely changed. Instead of presenting a concavity beneath the pubes, as in retroversion, the bladder presents there a convexity, a derangement which must not be lost sight of in the introduction of the sound." 36.

Morbid Appearances. These are easily summed up. They are dilatation of the bladder, attenuation of its coats, and a pale white appearance of the mucous membrane. When the urine has grown alkaline, and chronic inflammation of the mucous membrane of the bladder has been set on foot, then we have its characteristic appearances—appearances on which we need not dwell at present.

Treatment. We shall quote what Mr. Coulson says upon this subject.

"The first and immediate step required, is to draw off the accumulated urine by means of a catheter; and the operation should be repeated twice, or even oftener, in the twenty-four hours (at intervals sufficiently short to prevent over distension,) until the bladder has recovered its contractile power. If the complaint has not arisen from organic mischief, and the patient is not very old, recovery may be expected to take place; and as the bladder recovers its tone, the patient says he fancies he could pass a little urine; and, on making the effort, voids some, either drop by drop, or in a small stream. As the recovery begins to take place, the catheter should be less frequently employed until its use be entirely superseded. In other cases, particularly in elderly persons, the bladder never recovers its tone, and the use of the catheter will be required as

long as the patient lives. In the paralysis of the bladder dependant on disease or injury of the spine, the catheter should be passed with the greatest care and caution, so as, on the one hand, to avoid injury to the mucous membrane, and, on the other, completely to empty the bladder.

These are points of the greatest importance, which, perhaps, have not always been sufficiently attended to in practice. Dr. Burne mentions, in the paper, already quoted, a case in which so long as the bladder was completely evacuated, the urine retained its natural character, and the bladder remained free from disease.

To prevent any injury to the mucous membrane, a gum elastic catheter had better be used; and, at the time of passing it, pressure on the pubes should not be used, nor should I advise the catheter to be kept in the bladder, but it should be introduced on each occasion when the urine requires to be drawn off. Cases are on record where abscesses in the bladder and ulcerative perforations have been the result of the point of the catheter coming in contact with the bladder. I need scarcely observe, that if, from any circumstance, as impermeable obstruction of the urethra or enlargement of the prostate, the catheter can not be introduced, the life of the patient must not be endangered by delay: but the bladder must be punctured." 40.

We would observe, that the regular introduction of the catheter is certainly not sufficient to prevent the alkaline condition of the urine, in cases of injury of the spine. We have in several instances seen this condition of the urine established, when the catheter was introduced with regularity.

In a case of compound fracture of the leg, which was under our care a few years ago, the patient was suddenly attacked with paralysis of the bladder, and the urine rapidly grew alkaline and loaded with adhesive mucus. A few injections of water with a little nitric acid removed these symptoms as rapidly as they had come.

The constitutional treatment must vary with the cause of the disorder.

Mr. Coulson alludes to the paralysis of the bladder so apt to occur in hysterical girls. He wisely recommends their being let alone. When they are, the retention of urine seldom lasts, but if the catheter and surgeon are always at hand, it may go on till the latter is tired.

III. ACUTE INFLAMMATION OF THE MUCOUS MEMBRANE OF THE BLADDER.

Mr. Coulson presents a concise account of the symptoms of this affection. But they must be tolerably familiar to our readers. If the inflammation is not arrested, ulceration of the mucous membrane occurs, and may proceed to the destruction of the whole mucous membrane. The symptoms of this alteration are not decisive, unless there are *scæces* passed by the urethra. But, as Mr. Coulson remarks, there is always reason to suspect it when disease of that organ has been of long continuance, when the pain is increasing and extensive, and when pus is distinctly detected in the urine. The ulcerative process is attended with constant pain and irritation, keeping up the desire to void the urine, which is never suffered to accumulate; at the same time, increased difficulty and increased pain generally attend the passing of it.

Ulceration may cause perforation of the parietes of the bladder and extravasation of urine. But, usually, the previous effusion of lymph has glued the neighbouring parts together, and escape of the urine is prevented, or a communication is established between the bladder and the ileum, or sigmoid

flexure of the colon, or the rectum. In the former case, the *faeces* pass into the bladder and through the urethra—in the latter case, the urine is voided by the rectum. Mr. Coulson relates an instance in which there was stricture at the sigmoid flexure of the colon, and a communication existed between the bowel above the stricture and the anterior of the bladder. The patient passed *faeces* with the urine during life. We have related in a former number of this Journal a case in which the *cæcum* communicated with the bladder by means of a circuitous sinus opening into each, and passing from one to the other. In this case no *faeces* were discharged by the urethra.

The more usual course of the disease, is, that ulceration gradually extends to the whole of the membrane, which is destroyed, and then the muscular structure is shewn better than any dissection can represent it. In the progress of the ulceration, disease commonly manifests itself in one of the kidneys, and, as far as Mr. Coulson's observation has gone, in the left kidney. This is indicated by rigors, sickness, more or less pain in the loins, albuminous, and purulent urine, tinged, perhaps, with blood.

"Attempts have been made to determine, by the qualities of the pus, whether it has been secreted from the bladder, or has passed from the kidney.

'When nearly pure,' says Dr. Prout, 'and unaccompanied by mucus, or when it contains blood, it may be supposed in general to be derived from an abscess. Most frequently, however, it is accompanied by mucus: indeed, mucus and pus are so nearly related as to run into each other imperceptibly; and when the mucus is in excess and has preceded the pus, we may almost always conclude that some portion of the mucous membrane lining the urinary organs, is the common source of both.'" I may observe, that when the pus and mucus exist in small quantities in the urine, it is difficult to distinguish one from the other. Pus, however, when well marked, may be distinguished from mucus by being composed of particles. Hence, when diffused through a fluid, the latter is rendered opaque, though, upon standing, the pus subsides to the bottom of the vessel, in a state more or less pulverulent, and the fluid assumes its transparent character, but it also mixes more readily with the urine. If in urine pus be present with mucus, it is found lying on the latter, and presents a much yellower tint; it is also quite opaque; whereas mucus is more or less transparent.' 52.

We need not speak of the appearance of inflamed or ulcerated bladder, when examined after death. We may merely observe that the inner membrane is sometimes covered with coagulable lymph, which has been found projecting into the cavity of the bladder, and, during life, portions of it have been occasionally separated.

One of the kidneys is usually in a state of ulceration, and contains pus, the ureter being inflamed in its whole course, and ulcerated at its vesical extremity.

This affection, says Mr. Coulson, may be confounded with inflammation of the muscular structure, but in the latter case there is not the power of passing the urine, and the desire to void it is less frequent, not being experienced until a good deal of urine is accumulated in the bladder, and then coming on in violent paroxysms. Neither is there the burning sensation along the urethra which is felt when the mucous membrane is affected.

This disease is very likely also to be mistaken for stone. The uneasiness in the bladder, the frequent desire to make water, and the passage of blood with the urine, are symptoms of stone as well as of this complaint. But in stone the pain is principally experienced after the bladder has been

emptied, whereas, in acute inflammation of the mucous membrane of the bladder, the pain is most intense when the bladder contains urine, and subsides when it is empty: in stone, larger quantities of blood are passed than in this disease, and the urethra is seldom so irritable.

Treatment. Confining his attention to inflammation of the bladder, uncomplicated with any other organic affection of consequence, Mr. Coulson lays down the following plan of treatment:

"Blood should be taken at the commencement by the application of leeches to the hypogastric region, and they should be repeated so long as the severity of the pain continues, and the strength of the patient will allow. Commonly, however, the loss of much blood cannot be borne. The most valuable remedy at the early stage is morphia, or opium, (I prefer the former), given in sufficient doses to allay the pain about the bladder and along the urethra, as well as the frequent desire to pass the urine. These are the most distressing of the whole class of symptoms; and if unmitigated, they soon wear out and exhaust the strength of the patient; but if only a few hours' intermission be obtained in the day, some chance may exist for the recovery of the patient.

In addition to the internal use of opium, or morphia, anodyne injections, or suppositories, should be exhibited at bed time, and great relief will be experienced from their use. Some practitioners recommend the injection of oil and opium, and other remedies, into the bladder, by means of a gum elastic catheter; and in one of my patients, this plan had been tried at the suggestion of an eminent physician, prior to the patient being placed under my care, but no benefit was derived from this treatment. In fact, the pain and irritation which are experienced from the introduction of any instrument along the urethra, are so severe, as to deter me from employing this plan; and unless there be retention of urine, which is very rare in this form of disease, the use of the catheter, sounds, and bougies, should be particularly avoided.

It will be advantageous to employ counter irritation above the pubes; and the hip bath at night will be found very serviceable.

In the treatment of these cases, however, we find, that no remedy, opium or morphia perhaps excepted, long retains any influence over this complaint. The practitioner must be armed with a variety of agents, so as to be able to substitute one for another when it loses its effect. An infusion of diosma in the proportion of an ounce to a pint of water, the decoction of wild carrot seeds and parsly breakstone, small doses of copaiba and essential oil of cubebs, infusion of hops and the alkalies, will, all in their turn, be found useful." 58.

Mercury, observes Mr. C., is not of use in this form of inflammation, except at its commencement. Certainly we have found benefit from the combination of small doses of calomel, James's powder and opium, when the inflammation was acute.

The diet of the patient should, of course, be of the lightest and blandest description. He should not take diluents to the extent of increasing, to any material amount, the urinary secretion. The patient should be kept quiet, in rather a warm temperature, and he should remain, we would add, as much as possible in the horizontal posture.

Mr. Coulson has not alluded to a remedy which we have seen of much service, cupping on the perineum, or the application of cupping-glasses over leech-bites in that situation. We have found much advantage from directing the frequent repetition of the operation, taking care to abstract very small quantities of blood (from an ounce to three or four) and conjoining several

dry cups with the wet ones. The acute inflammation of the bladder which occasionally follows gonorrhœa is much benefited in this manner.

Prognosis. This is very unfavourable, if the ulcerative stage has once set in. If females are affected (and they are more prone than males to this disorder), pregnancy relieves the symptoms, which return after delivery.

Mr. Coulson relates several cases of inflammation and ulceration of the bladder. They illustrate the preceding observations and descriptions.

IV. SUBACUTE INFLAMMATION OF THE MUCOUS MEMBRANE OF THE BLADDER.

Men, says Mr. Coulson, are more subject to this complaint than females, and elderly persons than young ones. In some countries, the disease is so uncommon, that Hoffman calls it *morbis rarissimus*. In others, it appears more frequently, and something like it has been known to assume an epidemic character.

From the characteristic discharge of mucus in this disorder, it has received the name of *Vesical Catarrh*. This is accompanied by a sensation of heat in the bladder, extending along the urethra, weight in the perineum, shooting pains towards the anus, and a frequent desire to void the urine, although not to so great a degree as in the acute form.

Sometimes the symptoms are very mild, and cause but little inconvenience; at other times, the disease assumes a serious character and even proves fatal, particularly in old and weak persons. Then, the heat in the bladder and urethra are converted to a scalding; and the desire to make water, becomes more frequent, is attended with violent straining efforts to void it, and retention often takes place, being usually caused by clots of mucus blocking up the passage. On the urine being drawn off, the symptoms are relieved for a time, but return on the filling of the bladder.

The patient is very restless and uneasy; there is great thirst; the bowels are irregular, generally very costive or relaxed; there is pain round the anus and in the region of the loins; great prostration of strength and wasting of flesh; and the patient at last dies completely exhausted.

The quantity of mucus secreted varies. In some recorded cases several pounds have been passed in the twenty-four hours.

The mucus is sometimes like panada, and, on being shaken, colours the urine without flakes. Small quantities, however, usually render the urine muddy, pale, and flaky, and gradually settle to the bottom of the vessel. It is commonly very glutinous, and may run like a rope from one vessel into another. Occasionally it adheres to the bottom of the pot, and cannot be poured out of it. Sometimes it is transparent, white, yellow, green with streaks of blue, often without smell; sometimes on the contrary, dreadfully fetid.

“When the properties of the mucus are but little changed, it diffuses itself throughout the urine for a time, and renders the urine turbid, and of a whitish colour, but afterwards subsides to the bottom, and leaves the urine to assume its usual colour. But it is commonly thick, viscid and ropy, and sinks to the bottom of the vessel at once: in this case the urine is of a dark brown colour,

and is either neutral or alkaliescent. The urine, however, is usually acid at the commencement, and continues so until the quantity of mucus secreted is great; in this case especially, if the patients are very feeble, the urine is alkaline or neutral." 75.

The mucus may even obstruct the urinary passage, and so occasion retention.

On examining the bladder after death, the mucous membrane, in slight cases, is inflamed and presents here and there red spots, as if blood had been effused beneath the surface, while some are seen of a dark colour, almost amounting to black. Sometimes it is abraded, particularly around the darkest patches; and, in some rare cases, it has been entirely removed so as to leave the muscular fibres exposed. In severe cases the muscular fibres of the bladder are hypertrophied, and occasionally covered with calcareous deposits. In some cases of stone, an abscess is formed in the thickened coats of the bladder, and the mucous membrane is found in a gangrenous state. The kidneys are more or less affected, either simply inflamed or ulcerated.

The exciting causes of catarrh of the bladder, are thus enumerated by Mr. Coulson:—stone, enlargement of the prostate, exposure to cold, indulgence in ardent spirits, diuretic and irritating remedies, such as cantharides, violent exercise on horseback, venereal excesses; and it exists in connexion with hæmorrhoids, and other diseases of the rectum. In some of the injuries and diseases of the spine, this state of the bladder frequently occurs. Soemmering dwells strongly on suppressed gout as the cause of the complaint, a fancy evidently too far-fetched. The worst case which Dr. Prout ever saw was in a gouty subject.

"There are some habits apparently more predisposed to this affection than others: such are those of an irritable scrofulous temperament, with fair skin, and tendency to cutaneous affections, more especially if they have been accustomed to live freely, or been given to venereal excesses, or have suffered from venereal affections, or gout. In such individuals exposure to cold seems one of the most frequent causes of this affection, and those who actually labour under it are generally found to suffer much more severely in cold weather.

Cases of a milder character have been observed to terminate in a short time, or to assume an intermittent form, especially when associated with hæmorrhoids, or certain petechial affections. Old persons mostly retain the complaint as long as they live." 79.

Treatment.—If stone in the bladder is the cause of the complaint, this will not cease till the stone is removed, supposing that proper or practicable. In severe cases, there is generally retention of urine, and the water must be drawn off twice every twenty-four hours. Mr. Coulson quotes, and we quote again, the sentiments and directions of Sir Benjamin Brodie, with respect to injecting the bladder. Sir Benjamin observes that.

"In aggravated cases of the disease, where the symptoms are at their greatest height, the mildest injections, even those of tepid-water, will do harm rather than good. They are especially to be avoided when the mucus deposited by the urine is highly tinged with blood. When, however, the symptoms have in some degree abated, the injection of tepid-water, or decoction of poppies, is in many instances productive of excellent effects. An elastic gum catheter may be

introduced into the bladder, and the injection may be made by means of a small elastic gum syringe. The liquid should be allowed to remain in the bladder about thirty or forty seconds, and not more than an ounce and a half or two ounces should be injected each time. If the bladder be distended, so as to occasion any considerable degree of pain, the effects is always injurious instead of being beneficial. This operation may be repeated according to circumstances, once or twice in twenty-four hours. When there is a further abatement of the symptoms the disease having assumed a still more chronic form, and the mucus being free, except on extraordinary occasions, from all admixture of blood, we may venture to add to the injection a very small quantity of nitric acid. At first, the proportion ought not to be more than that of one minim of the concentrated, or ten minims of the diluted nitric acid, to two ounces of distilled water; but afterwards this proportion may be doubled." 80.

The injection of the solution of nitric acid is also beneficial when the mucus deposits phosphate of lime, which combines with triple phosphate, furnished by the urine.

Mr. Coulson recommends as medicines, when there is much secretion of mucus, the decoction of the uva ursi with muriated tincture of iron, and small doses of powdered galls and nitre. The decoction of the Pareira Brava, combined with the nitric acid, is very useful also. The Pareira Brava, as our readers know, has re-appeared in our new Pharmacopœia, after a temporary absence from its pages. It was much in vogue in the beginning of the last century, and was lauded in a work published by Andreas Helvetius, as a specific for the affections of the bladder and kidney. Mr. Coulson has tried some experiments on the methods of preparing the remedy for use, which deserve attention.

"The mode of preparing this medicine, as advised in the present Pharmacopœia, is to put six drachms of the root into a pint of water and to macerate it for two hours. I usually, however, order a decoction—an ounce to a pint and a half of water, to be boiled to a pint.

Messrs. W. Allen and Co., of Plough-court, have recently made some experiments for me as to the advantage of macerating the roots previous to the boiling.

Three decoctions of the radix pareira brava were prepared with the following differences:—

1. Without previous maceration in cold water.
2. With previous maceration of 4 hours.
3. Ditto 12 hours.

On comparison, there appear but slight variations in the result. No. 3, however, seems to possess *rather a stronger taste* than No. 1. Perhaps the same may be said (in a less degree) of No. 2.

These decoctions are filtered with difficulty; but, by long standing, the feculent matter was separated, and the supernatant portions compared together. No. 1, was perfectly bright, while Nos. 2 and 3, were not quite so; yet, contrary to expectation, No. 1, was found to be of a rather greater specific gravity. This would imply that the previous cold maceration *does extract something, not permanently to remain in solution, but to be precipitated, and with it to carry down some other matter during the subsequent boiling.* If this be the case, it indicates the impropriety of the feculent part being separated—at least, until it is ascertained to possess no medical efficacy." 110.

If there is much pain or restlessness, morphia or opium should be exhibited—colchicum should be administered if there is any tendency to

gout*—small doses of copaiba or the essential oil of cubeba with hyoscyamus, and with or without the *parcira brava*, may be useful, or may be just the contrary—light nourishment—warmth—the greatest care in all respects—such is the category of remedial measures.

V. ACUTE INFLAMMATION OF THE MUSCULAR STRUCTURE OF THE BLADDER.

Such is the subject and the title of the fifth chapter of Mr. Coulson's work.

Some authors and many surgeons doubt whether the muscular coat of the bladder is inflamed without the mucous and peritoneal tunics participating in the morbid action. Mr. Coulson, however, agrees with those who have considered that either of the tunics of the organ may be singly and separately affected. But he admits that acute idiopathic inflammation of the muscular tunic is comparatively rare, whilst affections of the mucous membrane, and chronic affections of the muscular tissue are frequent.

It more frequently, he says, attacks adults than the young or old, strong robust persons than the delicate, and males than females. The symptoms are given by Mr. Coulson.

The patient, he says, first complains of a dull aching pain in the region of the bladder, which soon becomes more violent and extends itself to the neighbouring organs. This pain is increased by pressure, and is attended by a desire to pass the urine, without, however, the power to satisfy it. The desire is not incessant, but comes on in paroxysms, attended with pain. The urine is evacuated at first in small quantities, and the attempts to pass it cause great pain. The small quantity which escapes is of a dark colour, sometimes not unlike coffee in appearance, at other times of a deep red, and even bloody colour, and at last complete retention occurs.

There is a sense of fulness in the lower part of the abdomen, pains in the lumbar region, in the groins, and down the thighs, but there is not the burning sensation along the urethra and in the perineum, which is found in the inflammation of the mucous membrane. The complaint is ushered in by rigors, which are soon succeeded by great constitutional disturbance. The pulse is full and hard, the thirst is great, and the skin hot, with general uneasiness and sickness. If the inflammation increases, pains are felt in the intestines, particularly in the rectum, combined with tenesmus, delirium comes on the pulse rapidly sinks, and the patient soon dies. If the inflammation be seated, as is frequently the case, in the neck of the bladder, the urine, which has entered the bladder, is retained by the inflammatory action in that part, and the bladder soon becomes distended and projects above the pubes. There is a sense of weight in the perineum; and often painful erections of the penis, and an examination by the rectum gives great pain. These symptoms are explained by the anatomical structure and extreme sensibility of the trigone.

* A grain or two of the ascetous extract may be given at bed time. We have tried this a good deal, as it has been much patronised by several eminent men, but we must own that we are not satisfied of its virtues as we could desire.

If the inflammation is situated more in the upper part of the bladder, the desire to pass water is not so frequent, and the difficulty is less, but there is danger of implication of the peritoneum.

The progress of the complaint depends on its severity. Occurring after suppressed gout it may quickly terminate fatally, but, usually, after two or three days, if active measures are employed, the symptoms begin to yield.

“ This form of inflammation sometimes terminates in the formation of abscesses in the coats of the bladder, and the symptoms are of a very formidable character, depending upon the size and situation of the abscess. The urgent symptoms of the inflammation subside ; but there is a dull pain in the region of the bladder, occasional rigors, with febrile excitement, and uneasiness in passing the urine and the fæces. The abscess may open into the cavity of the bladder, in which case the pus is evacuated with the urine, and the patient experiences great relief ; or, on the other hand, the matter may extend into the cellular tissue of the pelvis, and makes its way either through the rectum or the perineum, or even to the groins, in which case the result is more frequently fatal. Mr. Wilson mentions an interesting case, where extensive suppurations had taken place in the coats from the prostate to the fundus of the bladder, the matter being lodged every where between the coats, and near the fundus several ulcerations had taken place through the internal membrane by which the matter had passed into the cavity of the bladder.” 98.

The complaint may be mistaken for acute inflammation of the prostate gland, but, in the latter, there is more fulness and tenderness on pressure in the perineum, and, on examination, per rectum, the prostate is found exceedingly painful and sensitive.

The morbid appearances are, as might be expected, great injection of the muscular coat with blood—a dark colour sometimes even a gangrenous condition of it. The mucous membrane is also of a dark red colour. In other cases, the membrane will be found thickened, and the bladder itself contracted. Pus is found sometimes infiltrated through the tunic, or else circumscribed in the form of an abscess.

The causes of the complaint are exposure to cold—indulgence in spirituous liquors—more frequently gonorrhœa—wounds, the incautious use of instruments, or other local injuries—the immoderate use or even the external application of cantharides—irregular or suppressed gout.

Such is Mr. Coulson's account of acute inflammation of the muscular coat of the bladder. We must say that we have never seen a case in which we were satisfied of the limitation of the inflammation to this coat. That inflammation may in one instance be principally seated in one tunic, and that in another instance it may be mainly located in another tunic, is too certain to admit of doubt; but its absolute limitation to one coat, and particularly to a central coat like the muscular, does not seem to us so well established in fact, as in theory. The only case related to Mr. Coulson as a sample of acute inflammation of the muscular coat of the bladder, displayed, on dissection, the signs of inflammation in all the coats. Mr. Coulson examined the body on the day after the decease, and “ found the bladder in an intense state of inflammation : there was no organic change in its structure, but the tunics particularly the muscular coat, were of a very deep and red colour.” But whilst we are sceptical, at present, of the separate existence of acute inflammation of the muscular coat of the bladder, we are sensible of the utility of directing attention to the possibility of its occurrence, and of

awakening attention to the varieties of symptoms which a greater or less affection of any particular tunic of the organ may give rise to.

Treatment.—Prompt measures are requisite in a disorder so acute as this. General blood-letting, if the patient be strong or robust, must be first employed; or, if the patient be delicate and of a spare habit, local bleeding, as leeches to the pubes or cupping in the perineum, may be substituted; or these may be regarded as auxiliaries to the general blood-letting.

Hot fomentations should be constantly applied to the pubes, and the patient, after the bleeding, should be placed in a hot bath. As there is retention of urine, the latter must be drawn off from time to time by the catheter. Calomel and opium—sedative injections or suppositories—saline aperients with colchicum, especially if the attack is of a gouty character—and warm mucilaginous drinks, are the remedies which seem most adapted for the case.

VI. CHRONIC INFLAMMATION OF THE MUSCULAR COAT OF THE BLADDER.

The sixth chapter is occupied with this affection. It may supervene on the acute form, or may occur independently of it altogether.

In this complaint, says Mr. Coulson, there is uneasiness about the region of the bladder, frequent desire to make water, both by night and day, but especially by night, and the urine does not flow so readily as it did; there is also, occasionally, prolapsus of the rectum. The patient frequently complains of pains in all the limbs and in the region of the back; the skin is dry and attacked with psoriasis or lepra; the urine is scanty, of deep colour and of high specific gravity. The kidneys, after a time, are involved in the progress of the disease, the urine becomes albuminous, nausea supervenes, the patient loses flesh and strength, and sinks at last from complete exhaustion.

The coats of the bladder becoming thick and hard, and no longer admitting of the former degree of extension, the patient feels a sense of weight in the pelvis, and the bladder may be felt through the rectum as a hard thick body. The patient is unable to empty the organ completely, and the small remaining quantity is a source of great irritation, and of extreme efforts to expel it.

On dissection, the bladder will be found more or less thickened; and its inner surface presents a considerable number of rugæ, caused by the projection of the enlarged fasciculi beneath. The thickness of the bladder is sometimes very considerable. Dr. Baillie has given the representation of a bladder nearly an inch in thickness: the prostate gland is enlarged.

“This disease is frequently the sequel of acute inflammation, but is also caused by strictures in the urethra, enlargement of the prostate, prostatic calculi, cold, stone, indulgence in spirituous liquors, irritating medicines, as cantharides; and in some constitutions the long-continued use of cubebs and copaiba. In persons, in whom there is an hereditary predisposition to urinary affections, it occurs from slight causes, as well as in gouty and rheumatic subjects. The retention of the urine in the bladder, after the desire to void it has been felt, often brings on this complaint.

This affection is likely to be confounded with simple irritation of the bladder, but the absence of pain, and of the constitutional symptoms which I have described, is the great diagnostic sign. Hysterical females are also subject to a peculiar form of irritation of the bladder, which might be mistaken for inflammation. They suffer great pain, and even have retention of urine; but the temperament or constitution of the patient will shew the nature of the disease." 108.

Mr. Coulson remarks that any obstacle to the issue of urine from the bladder will give rise to hypertrophy of the muscular fibres—a hypertrophy which must not be deemed the consequence of inflammation.

Treatment. The first thing is to determine the cause, and to remove it, supposing its removal possible. The complaint itself is extremely troublesome. Mr. Coulson recommends, in gouty, rheumatic, or plethoric persons, colchicum given at night, in the dose of one or two grains of the ascetic extract. As the urine is acid and often scanty, Mr. C. advises the alkalies to be given after meals, in a form often used by Dr. Prout, viz. the bicarbonate of potass, sesquicarbonate of soda, and nitrate of potass. He recommends, too, the *poreira brava*.

"The diosma, in the form of an infusion, combined with the alkalies and tincture of hyoscyamus, will be found of great service. Should the urine not be acid, or, as is not unfrequently the case, should the alkalies produce headache and restlessness, or uneasiness about the region of the stomach, then their use must be discontinued, and recourse had only to sedatives, as the extract of hop, and extract of uva ursi, or the nitric ether, with the tinctura camp. co.; and the occasional exhibitions of suppositories. The diet should be plain, but nutritious, and all beer, wine and spirits should be prohibited. Exposure to wet and cold invariably aggravate this complaint, and should, of course, be avoided." 113.

VII. INFLAMMATION OF THE PERITONEAL COAT OF THE BLADDER, AND OF THE SURROUNDING CELLULAR TISSUE.

The peritoneal coat of the bladder may be inflamed without the other coats being involved, in consequence of the laxity of the cellular connexion between it and the muscular tunic. Dr. Todd observes, that there are on the record two cases in which acute inflammation was limited to the peritoneal tunic of the organ. The inflammation of the peritoneal coat of the bladder seldom fails to extend to other parts of the general peritoneum. It is often the close of a fatal disease of the bladder, but the old adhesions often found between the bladder and other viscera shew that the affection is often not so serious.

The pain and its aggravation on pressure, the state of the pulse, the countenance, and position of the body, clearly indicate the nature of the complaint.

The treatment is that adapted for peritonitis, modified by the particular circumstances of the case, whatever they may happen to be.

Mr. Coulson just touches on a severe but highly interesting affection—diffuse inflammation of the cellular membrane of the pelvis. But he only touches on it, and we should not, therefore, think ourselves justified in going into it.

VIII. FUNGUS HÆMATODES AND CANCER OF THE BLADDER.

Mr. Coulson does not add much to what was already known with respect to these affections. We shall therefore say little about them.

Fungous excrescences, he observes, occasionally arise from the inner surface of the bladder, and are productive of most distressing symptoms, often very similar to many of those which attend the stone. These excrescences are different in their size, and in the extent of surface which they occupy. Sometimes they originate from a single root, and occasionally from several; but they generally consist of a similar loose and fibrous structure. In certain situations, as when immediately behind the neck of the bladder, they will, by blocking up the origin of the urethra, cause a very considerable obstruction to the passage of the urine; and the bladder being irritated, and frequently excited by them to stronger action than in a natural state, its muscular coat becomes thickened. These excrescences are sometimes attended with a discharge of blood, and of a viscid ropy mucus, the result of irritation of the inner membrane of the bladder, and with pain along the urethra, and at the glans penis. The glands in the groins and pelvis, usually, become enlarged.

The fungus is often of the true medullary kind, breaking and bleeding with facility. There is always a disposition to hæmorrhage, and the urine frequently contains small portions of the medullary matter, the latter being the most distinctive sign of the disease.

The treatment is so exclusively palliative, that we do not consider it requisite to dwell on it. Mr. Coulson very judiciously insists on the necessity for the horizontal posture. We extract one remark on albuminous urine, which merits the attention of our readers.

"The powers of life are generally much exhausted; and the urine is often alkaline, containing albumen, and a large proportion of the phosphates.

I may, perhaps observe here, that when albuminous urine is alkaline, it is sometimes incapable of being coagulated by heat. It was supposed that this depended on the presence of some fixed alkali, which held the albumen in solution. Mr. Rees made an analysis of two different specimens of urine taken from the same individual: one was neutral, and coagulable by heat; the other was not coagulable by heat, and possessed an alkaline re-action. From the analysis it appeared, that the alkaline specimen contained the greatest proportion of albumen, and a much smaller proportion of alkaline salts than the neutral urine. This goes strongly, he observes, against the probability of any fixed alkali, being the solvent of the albumen; for in this case we should expect a redundant quantity of fixed saline matter, in proportion to the albumen present, whereas, exactly the opposite, was the result." 132.

IX. FOREIGN BODIES IN THE BLADDER; OPERATION FOR STONE.

The chapter is a brief one, and a few observations are all that we shall extract from it.

Mr. Coulson alludes to several recorded instances of hair voided with the urine. The most curious, perhaps, is one quoted by Mr. Howship, and which occurred to Dr. Wallace. In this case, hair was several times voided

with the urine; and on the body, after death, being examined, a stone was found in the bladder, large as a goose egg, from parts of which hairs had grown out. It was thought that the hairs voided during life, which were a great many, and some of an extraordinary length, grew out of that stone; because when the hairs hung out of the urethra, as they frequently did, to his great torment, they were obliged to be pulled out, which was always done, with a resistance, as if plucked out by the root. It is evident that some fallacy exists in this observation, though it would be useless now speculating on what that fallacy was.

Musket-balls have found their way into the bladder. So have female catheters. The following case quoted from Ingleby may offer a hint on the mode of removing it.

"The patient was in the fourth month of pregnancy, and had experienced a retention of urine, by no means uncommon, just before the uterus finally quits the pelvis for the abdomen, but in this instance occasioned by the womb being considerably prolapsed—a circumstance which it is material to mention. At the time I saw the patient, the catheter had been in the bladder eight hours. It lay in the centre of the organ, quite transversely; and, the urine having dribbled away, the bladder was in as contracted a state as the catheter admitted of. By means of a long and very slender pair of forceps passed per urethram, I embraced the instrument near one end, and with the two fore-fingers of the left hand passed by the vagina, carefully elevated the other end; and having thus brought it into the horizontal direction, gently extracted it." 136.

On the third day, the ovum was discharged without hæmorrhage, and under the skin of the scalp of the fœtus was a considerable extravasation of blood.

Mr. Toogood of Bridgewater, has recently published in the Medical Gazette, two interesting cases, where the female catheter slipped into the urethra. In both cases, the instruments were extracted by dilating the urethra by the sponge-tent so as to enable the fore-finger to be introduced into the bladder.

"Mr. Key and myself saw, two or three years ago, a case, where three inches of a thin gum elastic catheter broke in the urethra, near to the bladder, and although we were called to the gentleman immediately after the occurrence of the accident, we could not lay hold of the broken portion. Three weeks after this, the fragments (for there were two, one an inch in length, and the other two inches) were voided by the urethra. From the fortunate termination of this case, I came to the determination always to wait, in similar cases, before recommending an operation." 137.

Mr. Tyrrel has lately published a case, in which a catheter broke in the urethra and escaped into the bladder. He extracted it by Weiss's forceps. We have detailed the particulars of the case in a former number of this Journal.

Hydatids and worms have been discharged from the bladder. We need not do more than mention the fact. We are unable to notice some interesting remarks on the method of performing the operation of lithotomy, with which Mr. Coulson concludes the chapter.

The tenth and last chapter, on Wounds and Injuries of the Bladder, does not seem to require particular notice. We therefore take our leave of this work and of its author—the former fraught with much excellent practical information—the latter a zealous, intelligent, and skilful surgeon, and a gentleman possessed of the most honourable feelings. We wish both the success which they merit, and which we are confident they will obtain.

Reviser. pr;

OR,

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodeunque potest, atque addit acervo."

NOTICES OF SOME NEW WORKS.

AN EXPERIMENTAL INQUIRY INTO THE PHYSIOLOGY OF CUTANEOUS ABSORPTION, AND ITS APPLICATION TO THERAPEUTICS, &c. &c. By W. H. Madden, M.D. 8vo. John Carfrae and Son, Edinburgh, 1838.

To this essay the gold medal was awarded by the University of Edinburgh, in August, 1837. Such a testimony forms ample passport to public attention:—and, indeed, the work displays very laudable research, and much soundness of judgment in every page. The essay is divided into four parts:—the *first*, comprising the anatomy of the skin—the *second*, absorption from the uninjured skin—the *third*, endermic absorption—the *fourth*, the agents of absorption, and the therapeutical application.

For obvious reasons we will pass entirely over the first division—nor will we dwell very long on some portions of the second. This division opens with a chapter on "*Absorption in the Bath.*" Most of the arguments *against* cutaneous absorption have been drawn from this source, and therefore our author has "carefully reviewed all that has been already written upon the subject"—preferring the charge of prolixity to the hazard of leaving his task imperfect. The results of our author's own experiments are in favour of those who have advocated the power of the absorbents to suck up moisture from local application of warm water to the surface. Ancient and modern authorities are cited—from the baths of Nero's wife (Poppæa) down to the sailors in the launch with Captain Bligh—to prove general absorption of fluids by the skin. Our author made numerous experiments on himself as well as others—and all corroborated the opinion that fluids are absorbed by the skin.

"The balance which I employed was extremely sensible, vibrating perceptibly with a weight of a very few grains; and in order to obtain the greatest possible accuracy in my results, I made use of the following plan. Having carefully noted the spot to which the extremity of the beam, when perfectly horizontal, pointed, this was taken as the centre of a scale, constructed with the greatest care, by adding weights alternately to the beam and the seat, and marking the respective points which the beam indicated. By this means I was enabled to measure with the greatest accuracy any weight not less than gr. x., but lower than this I did not attempt to go, nor do I think that it was necessary. The scale then being affixed to the wall, and the balance so arranged, that the extremity of the beam pointed exactly to the horizontal line, I was accurately weighed, and the same process was repeated in half-an-hour. Immediately afterwards I entered the bath, and to avoid the most distant chance of fallacy from pulmonary absorption, my head was enveloped in an oiled cloth bag, to which a long glass tube was attached, and passed out of window, so that I breathed the external air alone. After remaining immersed for the same length of time, I was carefully dried, and again weighed. The results of twelve

experiments thus performed, though not uniformly the same, were yet upon the whole extremely satisfactory." * 59.

A chapter is dedicated to absorption of water from the atmosphere, and the result of observations and experiments are in favour of the said absorption. Dr. Combe is of opinion that the lymphatic temperament of the Dutch is owing to the absorption of moisture from the aqueous atmosphere.

"Upon the whole, then, we are, I think, justified in concluding, that the facts now related certainly constitute additional evidence in favour of the existence of this function of the skin. But at the same time, if we consider the numerous cases in which the body loses weight, even in a moist atmosphere, and the very few instances of augmentation which have been recorded, it must be admitted, that it is under particular circumstances only that the aqueous vapour contained in the circumambient air finds its way by this course into the system " 75.

The third chapter on the absorption of miasmata, exhalations, contagions, &c., contains nothing important. The channel through which miasmata and morbid poisons are conveyed into the human system is not positively ascertained; but it is far more likely that they are taken in by the mouth than by the skin, notwithstanding some ingenious reasons for the latter supposition adduced by our author. As for the poison of syphilis, no man in his senses can now doubt that it is frequently, perhaps most frequently, absorbed from an unabraded surface. The absorption of morbid poison from glandered horses is attested by Elliotson and others.

The fifth chapter is on the absorption of medicinal agents. We have devoted several articles in this Journal to the endermic treatment of diseases that we need not dwell long on this chapter. The application of mercury to the surface, and its absorption into the system is one of the most familiar and convincing experiments—though some physiologists, even to this day, maintain that no absorption takes place, but that the nerves, are the agents in this affair. We need not allude to the absorption of iodine, antimony, arsenic, lead, &c., as the facts are incontestible. We are much in the habit of using tartar-emetie externally; and have often observed that sickness of stomach resulted. Most people are in the habit of rubbing croton oil on the abdomen in cases of obstinate costiveness, and with good effects. Dr. A. T. Thomson has found jalap and lard rubbed on the stomach produce griping and purging—and that poultices of rhubarb will act on the bowels of children.

"*Experiment.*—July 19, 1836. At 12 P.M. I applied to my abdomen a large poultice of oatmeal, mixed with about 5vi. of jalap in powder. It excited such intolerable itching, that I could not sleep, and at 5 A.M. I removed it. Notwithstanding this, however, my bowels were very freely opened next morning."

Opium, belladonna, and other anodynes prove not so clearly absorption, as some other substances, since the effects may be attributable to their agency on the nerves.

The second section of this division is on the absorption of liquids; but it is scarcely necessary to accumulate evidence of the absorption of liquids, when it has been abundantly proved as to solids. Speaking of iodine, the author thinks friction with the tincture is far better than when in combination with lard or any oily substance. The iodine or biniodide of mercury combined with soap liniment will, we apprehend, prove a useful external application, as well as internal. Dr Madden made experiments on himself with iodine, and detected the medicine clearly in the urine. We must conclude this short notice of Dr

* "The whole of these bath experiments were performed in August and September 1836, the weather being for the most part fine, and the air of moderate temperature."

Madden's very laborious and useful researches, with the following extract or resumé.

"It only remains, therefore, before bringing my labours to a close, that I should add a few words by way of resumé. In the foregoing pages, we have traced the remarkable analogy presented by the tegumentary organs throughout the animal kingdom, in all its gradations, from the highest to the lowest. We have seen that, while varying greatly in degree and extent of development, they have yet, in accordance with the beautiful and uniform simplicity of nature, been all, or almost all, constructed upon the same general plan; and we have hence argued, that since cutaneous absorption is undoubted in the lower tribes, we might fairly assume that it is not altogether wanting in the higher. Proceeding still farther, we have shewn, in opposition to the assertions of many physiologists, that the human epidermis, in place of being a mere inorganic varnish, spread over the surface of the true skin, to protect it from injury, and obstruct the passage of deleterious agents, is a membrane of a somewhat complex structure. We have seen that even if it does not possess a set of vessels peculiar to itself, it has yet embedded in its substance loops of the sub-jacent plexus of lymphatics, this arrangement being doubtless adopted for some specific purpose. We have shewn that it is not impermeable to fluids, and we have advanced reasons for distrusting the opinions of those who hold it to be destitute of vitality.

Fortified by these anatomical preliminaries, we have gone forward in our inquiry. We have found that various parts of the body, when steeped in fluids of a bland unirritating nature, attract to themselves an appreciable quantity; and that the rate of this imbibition may, to a certain extent, be determined by actual admeasurement. We have observed the *absolute* increase of weight which follows immersion in the warm bath, when no possibility of pulmonary absorption could exist, and at the same time we have endeavoured to prove, that the danger of fallacy from this source has been greatly exaggerated. We have seen thirst removed by the same means, and have reviewed those singular instances of long-continued abstinence from drink, of excessive and prolonged discharges, and of suddenly augmented weight, which can be explained upon one supposition only, viz., absorption from the atmosphere. We have next drawn arguments from the introduction of malaria into the system; we have proved the absorption of putrid exhalations, and shown how strongly the doctrine of contagion supports our proposition.

Nor does our evidence end here. By numerous and diversified observations, and by unequivocal experiments, we have demonstrated the important fact, that medicinal agents, when applied to the uninjured skin, be their form what it may, be they solid, liquid, gaseous, or in vapour, will speedily reach the interior of the body, and there exercise their accustomed actions. In this manner we have seen pain alleviated, and disease removed. We have seen death produced by the external application of a poison. Nay more, we have followed a substance thus placed in its progress inwards; we have detected its peculiar odour in the secretions; and, finally, we have shewn its presence, by the almost unerring test of chemical analysis.

Can more than this be required? Surely even the most sceptical, after an impartial consideration of these proofs, can scarcely persist in refusing his assent to the existence of cutaneous absorption. Unless utterly immoveable by testimony, he must at length be compelled to acknowledge that if all this be true, the evidence is overwhelming; that the doctrine rests upon as sure a basis as we can ever hope to obtain in physiological inquiries." 151.

We recommend this little work to the library of every medical man who wishes to know all that has been said and done on the subject of cutaneous absorption.

NOTES ON THE MEDICAL TOPOGRAPHY OF CALCUTTA. By *James Ranald Martin*, Presidency Surgeon, and Surgeon to the Native Hospital. Printed by order of Government. Calcutta, 1837.

It is now about 150 years since Job Charnock pitched his tent at Calcutta—chiefly because there was a large shady tree there, under which he might smoke his hooka in cool contemplation. It now contains nearly 70,000 houses! Mr. Charnock, however, chose a very bad locality for the emporium of commerce and future Metropolis of the East. In fact, he could scarcely have selected a more malarious spot between the Himalayha mountains and the sea-board of the Sunderbunds!

Upon the moral, physical, and political condition of the inhabitants of Calcutta, European, native, and foreign, Dr. Martin makes numerous and sensible remarks, which must be very interesting to our oriental countrymen, but which we cannot dwell upon here. The work must have cost the author immense pains, as it goes most minutely into all the details and ramifications of medical topography—and not only so, but into the nature and treatment of the endemic diseases of the place. We here present an extract, which we think Dr. Dickson of Cheltenham (the professed enemy of the lancet in all tropical diseases) ought to peruse with serious meditation on the tendency of his doctrines, should they ever have influence on the mind of the tropical practitioner.

“It only remains to notice the prevailing treatment of the dysentery of Bengal, amongst the more experienced practitioners at the Presidency, and this I shall insert in the order of importance. Blood-letting, general and local, as first practically urged in the dysentery of India by Dr. James Johnson, takes the lead, and has done so for many years; it is the standard remedy; and I believe that when the subject comes early and freely under this treatment, and that the case is not complicated with hepatic congestion or actual disease, little else than a few purges and sudorifics will be required for the cure; but as in most cases of this formidable disease, as it appears within the tropics, the diseased state of the large intestines is essentially mixed up with general abdominal engorgement, other and important means immediately follow the bleeding; and of the first are those which act powerfully on all the secreting organs, internal, and external. Calomel in full doses with antimony, or with ipecacuanha, followed by purgatives, sudorifics, warm baths, enemata and other minor adjuvantia. I believe this to be the general course here.” 116.

The following passage appears to be prophetic, and could not have been more to the point, if Dr. Martin had been sitting at Dr. Dickson's elbow while the latter *Gentleman* was inditing his philippics against Dr. Johnson's work on Tropical Climates.

“The above quotation I have made from the work of Dr. James Johnson—a gentleman to whom the Indian military surgeon is under a weight of obligation, which I regret to think *any one* should be found unwilling to acknowledge, or disposed to return with any other than grateful feeling.” 95.

The following passage possesses interest for the European as well as the tropical practitioner—seeing the great number of tropical invalids which annually arrive on our shores from the burning skies of the East.

CHRONIC ENLARGEMENT OF THE LIVER.

“This disease is by no means uncommon in Bengal, as a sequel to fevers both remittent and intermittent. The function of the organ is greatly impaired; there is frequently a hacking dry cough—dyspepsia in various forms, and general ill-health, with a sallow pasty complexion and emaciation. The treatment of this disease is not well understood. Mercury I believe to be injurious: it injures the stomach and bowels—already overdrugged, without exciting any secretion from the organ chiefly affected, and on which mercury, from repeated use, has

lost its effect:—purgatives of an irritating or drastic nature are equally injurious; in fact, it is often an unmanageable disease, not readily amenable to treatment or change of climate.

The plan of treatment I have generally had recourse to in such cases is the nitro-muriatic acid bath, steadily persisted in for a month or six weeks at a time; it seems, like mercury, to act powerfully on all the secretions, and in the cases here spoken of, I do not know a better remedy. When from morbid dryness of the skin the absorbents will not readily take up the acid, I direct the occasional use of the vapour, or warm water bath, with powerful friction of the whole surface, in order to stimulate and purify the skin." 135.

DIRECTIONS FOR USING THE BATH.

"1st. Two gallons of water (about ten bottlesful) may suffice for a bath.

2nd. To each gallon of water add 3 oz. of the dilute nitro-muriatic acid by measure.

3rd. The bath thus prepared will keep in use for three days, by adding half an ounce of the dilute acid and a pint of water, morning and evening, in order to make up for the waste by evaporation.

4th. A portion only of the bath to be heated for use, after which it is to be added to the remainder, so as to make the whole of a comfortable warmth.

5th. Let both feet be placed in the bath, while the inside of the legs and thighs, the right side (over the liver) and the inside of both arms are sponged alternately: this should be continued ten or fifteen minutes morning and evening.

6th. While using the bath, a gentle aperient, such as Cheltenham salts, or Epsom salts in some bitter infusion, should be taken every other morning.

7th. Earthen or wooden vessels should be preferred as foot-baths and all the sponges and towels be kept in cold water, as the acid corrodes them." 138.

The code of hygienic maxims for the guidance of European sojourners concludes the work, which is constructed with great labour, talent, and judgment. It presents an admirable specimen of what a treatise on medical topography ought to be. Dr. M. deserves the thanks of all ranks in Bengal, from the Governor General to the palankeen bearer.

THE REFORM OF CRIMINALS AND OF PRISONS. 8vo. pp. 20. Stephens' Bell Yard, March 1838.

THE title of this little pamphlet may induce many of our readers to suppose that the work can have little to do with the practice of medicine. But this supposition would be erroneous. The study and the practice of physic include almost every thing that affects the morals and the happiness, as well as the health of the community.

"Quicquid agunt homines—votum, timor, ira, voluptas."

All come within the pale of the medical philosopher's contemplation and influence. The medical man mixes with all classes of society; and being considered as a person of education, and well acquainted with human nature, his opinions are listened to with respect, and treasured up with care. Besides, there are medical officers to all Prisons, Jails, and Penitentiaries—and there they have good opportunities for observation, and ample range for the exercise of their knowledge.

The pamphlet before us is a very sensible one—and is evidently the production of a man well versed in the operation and tendencies of our criminal codes—as well as of our receptacles for the punishment or confinement of law-breakers. The abolition of the punishment of death, in all except atrocious crimes, is a modern triumph of justice and humanity over the most sanguinary and inefficient

code that ever disgraced a legislation or stained a civilized people! Severe to the criminal, it was indulgent to the crime—and offences were *encouraged*, because the rigour of the law led to the impunity in most cases, and uncertainty in all!

Corrective punishment has hitherto failed in this country—*first*, because it was not calculated to reform the character of offenders—and *secondly*, because discharged prisoners had no chance of honest employment—no resource for subsistence but renewed crime! It is the brand on his character, not the bodily infliction that the prisoner has to dread. The period of incarceration is not the limit of punishment, as many thoughtless magistrates seem to imagine. It acts with few exceptions, as an endless proscription from every respectable pursuit in this country. Until prisons shall be constructed and managed so as to purify and reform offenders, the sentence, in its main operation and effect, may be considered as *for life*!

“Were the increase and diffusion of moral evil the aim and intent of punishment, if the sentence prescribed ‘imprisonment, with instruction in criminality by experienced artists,’ no other preserves of vice than these prisons could be desired for the purpose of its dissemination over the untainted parts of the community.” 7.

This is a frightful, but we have no doubt, a faithful picture of the effects of “Prison discipline!” A vicious gaol infects not merely its immediate neighbourhood, but it diffuses the moral leprosy over a wide circle of society.

“Every gaol should provide as means essential to the reform of offenders and the protection of the public,

1st. The separate confinement of each prisoner.

2nd. His religious and moral instruction.

3rd. His instruction in some useful mechanical art or calling.

And Government should provide.

4th. Encouragement to the emigration of prisoners on their enlargement.” 10.

It has been customary of late, to rail against the inhumanity of solitary confinement; but by “separate confinement” our author does not mean seclusion without employment.

“As a separate system is designed to act chiefly by its corrective influence on the mind, it requires for its salutary administration, a vigilant superintendence by more discerning visitors than turnkeys. Well executed, it will be found an effectual, and in most cases, the only effectual engine of reform. When the prolonged endurance of it leads to unfavourable results, the prisoner should be placed in a class upon the silent system, which is the best substitute for the separate.” 11.

This system preserves the prisoner from the contamination of associates more advanced in crime, and from the formation of friendships and acquaintances that might be injurious to him, on his return to society. It is to be conducted under the resources and supports of religious and mechanical instruction, with proper attention to health by ventilation, temperature exercise, and proper diet. The pamphlet is well worthy of perusal by every man interested in the happiness of his species.

MEDICAL PORTRAIT GALLERY, &c. By T. J. Pettigrew, Esq. to be continued monthly. Price 3s. Fisher, &c. Three Portraits, 1838. Parts 1, 2, 3.

Contemporary, or living biography has never, we believe, succeeded to any great extent. The reason is obvious. The lights and shades of living characters cannot be faithfully portrayed, without great risk and inconvenience—except

anonymously—and then it is generally caricature. When the biographer is acknowledged, the character of the individual is, almost necessarily, overlaid with eulogy; the virtues are all placed in the foreground of the picture—and the defects in the shade. It is very different when “the dull cold ear of death” no longer listens to panegyric or censure. The biographer may then delineate the character, praise the virtues, censure the vices, and criticise the writings of the departed, without fear or reproach. There is also another disadvantage in contemporary biography:—the life is not finished—the last act of the drama—often an important, and always an interesting one—has not been enacted.

Still, with all these drawbacks, living biography is not without its utility, and even its attractions. We greedily peruse the various incidents in the lives of those who have figured on the stage, when the curtain drops, and it is not unnatural that we should have much curiosity to learn the chief particulars, however varnished by the pencil of flattery, while those characters are moving around us, and playing their parts in the many-coloured scenes of human existence. The living biographer must necessarily draw the chief incidents and epochs from the individual himself, whose life is placed on record, and thus the work becomes a kind of auto-biography—a species of history which has, in all ages, been greedily devoured. The work now commenced by Mr. Pettigrew, has also this advantage, that two thirds of it will consist of *post-mortem* biography, and consequently be free from the objections inseparable from the portraiture of living and contemporaneous characters. In the *former* and major part of the undertaking, it only requires industry, research, and discrimination:—in the *latter*, it requires great skill, intrepidity, rigid impartiality—and last not least, a stern abhorrence of pandering to the cupidity, vanity, or fears of those whose portraits are placed on canvas. Most of us remember the scandalous use, or rather abuse, that was made of this branch of literary labour by the late Dr. Nesbitt, whose poverty was but a poor excuse for the mercenary trade which he carried on. He went round to the various eminent personages in our profession, soliciting particulars of their lives, and hinting pretty unequivocally that they were to be idolized or victimized, according to the amount of the *subscription* for carrying on this nefarious *work*. We learnt, at the time, some curious anecdotes of characters, some living and some now dead, who were betrayed into pretty considerable sacrifices of purse, from fear of this speculative trader in fulsome praise and vindictive calumny. We have no apprehension indeed, that the biographer before us will condescend to any of the mean and mercenary arts of his predecessor; but we shall be acting the part of friends, in warning him against rendering himself liable to the slightest suspicion of such derogatory procedure, by unmeasured, or unmerited censure or *flattery* of the living portraits. The latter rock is the more dangerous of the two; Upon it are syrens sitting to lure him to the fatal shore—warblers—

“Whose song is death, and makes destruction please.”

The first part of the Medical Portrait Gallery has produced a favourable impression on our minds, not unalloyed by some fears, for the execution of the dangerous and difficult department of the work.

The first number contains three portraits and biographical memoirs. The first—“*ESCULAPIUS*”—gives the Editor an opportunity of shewing his Egyptian and oriental lore to advantage; but as the character is fabulous, we shall pass it over. The memoir of Albinus occupies only two pages of letter-press. This distinguished anatomist was born at Frankfurt in 1697—taught anatomy nearly fifty years in Leyden, and died in 1770, aged 73 years. An elegant portrait, and an authentic autograph of this great man embellish the short memoir.

Next to the elaborate dissertation on Esculapius and the fabulous æra of medicine, we have the biography of Sir Henry Hallford, occupying fourteen quarto

pages, with a most striking likeness, beautifully executed. Considering the position in which the subject of the memoir stands, and the extensive influence which he wields amongst the very highest classes of society, whether in the senate, church, at the bar, or in the profession itself, we must acknowledge that the living biography of such a man is as free from fulsome adulation as could possibly be expected under existing circumstances. It is true, that in the portrait there are no specks—no traits of human frailties: but still the language of panegyric is subdued, and the greater part of the memoir consists in a review—a favourable one, of course—of Sir Henry's scattered essays and orations.

This distinguished physician—the son of a physician, Dr. Vaughan—was born in Leicester, Oct. 1766—and consequently is in his 72d year. He is a remarkable instance of the degree of energy, both mental and corporeal, which may be retained beyond the tenth septenniad! Sir Henry is just as active a practitioner at this moment, as he was twenty years ago, when we first became personally acquainted with him. Educated at Rugby and Oxford, Sir H. became an excellent classical scholar, and so retentive is he of all the grammatical niceties of the Greek and Latin languages, that, the last time we met him in consultation, we found him amusing his vacant *moments*—that is between the houses of his patients—by translating English ballads into Sapphic verse—verse which Horace would not have disowned in the Augustan age! Having contracted a matrimonial alliance with a lady of noble race, he soon became the fashionable physician of the day—probably more owing to the elegance of his manners, the extent of his learning, and the influence of his connexions, than to any superiority over his contemporaries in practical knowledge or pathological research. Indeed he got into high practice before the age of thirty—and never having been attached to any hospital, he could not, at that age, and especially at that æra, have had much clinical experience, while pathology was almost unknown. Sir Henry presents one of the very few instances in this metropolis, of a physician penetrating into the very highest circle of practice, and consequently reaping the largest harvest of wealth, without being a medical officer of any hospital. Babington, Baillie, Curry, Warren, Pearson, Nevinson Chambers, Elliotson, &c. &c. might be cited as illustration. But Sir Henry outstripped all his competitors, with all the advantages of their clinical knowledge and patronage of pupils. We do not wonder at it. A notion prevails among those who are not acquainted with Sir Henry that, from his long course of attendance in the chambers of the high nobility, where imaginary are more numerous than real diseases, his practice was milk and water, and rarely active or decisive. This is an error. The worthy Baronet is by no means deficient of energy, where the case requires it—and his long experience enables him to detect the nature of a malady very readily, and grapple with it stoutly. It is very true that, for obvious reasons, this eminent physician has not been able to keep pace with the progress of pathology; and consequently he is defective in his diagnosis of disease of the chest, whether cardiac or pulmonic. This deficiency, though it might be an awkward inconvenience in the wards or dead-house of an hospital, was of very trifling import in the rounds of private practice, where it was seldom suspected by the friends of the dead, and still more seldom demonstrated by the scalpel of the anatomist. But had this retardation in the march of pathology been ten times more patent than it was, it would have been amply compensated by the *tact* of this gifted physician, unequalled in any age or nation! We sincerely believe that, since the days of Esculapius himself, down to the present moment, no medical practitioner ever entered the room of sickness so well calculated to cheer the drooping spirits, raise the hopes, or inspire the confidence of the patients, as the physician whose biography is here undertaken! The smiling countenance, the courtly manners, the eloquent language, wearing the appearance, if not the reality, of the most sympathising friendship, the firm tone, the artful but judicious interrogations, the patient

attention to garrulous details, the perfect mastery over every symptom of doubt, much less alarm—all combined with numerous other traits of bearing and conduct which language cannot convey, to impress the sufferer with a conviction that, if the disease admitted of remedy, here was the man most qualified by nature and art to apply it. We have, on more than one occasion, heard patients remark, after Sir Henry had left the house, that they would almost as soon die under such a physician as recover under some others whom they could name! This, though the chief, is not the only qualification which Sir Henry possesses as a powerful passport to fame and favour in the eyes of the world. His resources are absolutely inexhaustible. Not only can he vary the daily physic, with surprising ease, but he can gratify the most languishing and fastidious appetite of the invalid with innumerable forms of diet, which would seem to have required half one's life to study and manipulate. By the magic wand of this accomplished physician, the most protracted, painful, and incurable maladies are converted into a kind of luxurious anticipation of daily relief from medicine, and hourly enjoyment of the palate. We are, at this time, attending an octogenarian, whose taper of life has been kept, for some months, from extinction by a glass of rum and milk prescribed by Sir Henry early in the morning, after which, the bed-ridden invalid falls into a delicious sleep of some hours, dreaming of early scenes, and awaking refreshed, with constant blessings on the head of the physician who ordered so delightful a cordial for the decaying frame! But Sir Henry's resources and endowments are not confined to physic or physics—they extend to methaphysics. The dying Christian would find in him a more cheering philosophy and religion than most of our divines would be able to convey to the spirit retiring from its earthly tabernacle to soar into other and unknown regions. Discourses have been delivered by the subject of our memoir which would have been more appropriate in the mouths of prelates, than some of their harangues in the HOUSE OF THE LORD—leaving aside their orations in a house of many Lords.

With such natural talents acquirements and *tact*, is it wonderful that Sir Henry should have been the favourite physician of three successive sovereigns, with their courts, camps, senates, and aristocracy! The urbanity of his manners, the polish of his conversation, and the honorable etiquette of his conduct amongst his brethren, have rendered him a favourite consultant in all cases, and secured his professional popularity up to the eleventh septenniad of his life. We have met him when we were at "daggers drawn" with the College over which he has so long presided, and when our professional existence was in some danger from the anathemas of that once powerful, but now very harmless, body of medical aristocrats; yet never experienced the least deviation from friendly intercourse and professional equality. From Sir Henry Halford we never received or solicited either favour or patronage—and never will. We have drawn up the foregoing sketch of his professional character, from twenty years' observation of it, and without referring at all to the memoir of Mr. Pettigrew. We have neither extenuated the defects nor exaggerated the virtues of this distinguished physician, being perfectly independent of his frowns or favours; but only desirous of exhibiting the prominent traits of character which we have observed, without the slightest bias from medical politics or personal considerations.

The Second Part contains Portraits and Memoirs of Ruysch, Haller, and Sir A. Carlisle—all ably executed—but the last one not so good a likeness as we expected; but it was painted many years ago, and Time produces great change of features!

With the works of Ruysch the profession is well acquainted. He was born at the Hague in March 1638. Studied at Leyden, where he graduated—and settled in his native town. The plague having broken out in Holland, Ruysch was appointed by the States General to attend the sick at the Hague. He

afterwards devoted himself to anatomy, human and comparative, and, as is well known, made great progress—and perhaps discoveries. His vascular injections have rarely been equalled or surpassed. His time was so much taken up in the actual prosecution of anatomy, that he had little time for reading, and therefore often made real discoveries which had been made before, but were unknown to him. This, of course, led him into controversies, such as we have now, in full vigour, regarding the “excito-motory” function and nerves. He was Professor of Physic for forty-three years, when he fell and fractured his thigh-bone, which disabled him for further exertion. He died of fever in 1731, aged ninety-three years.

Of Haller we need not speak, his works and his life being equally well known to the world. The memoir of Sir A. Carlisle is extended to fourteen-quarto pages, and the particulars of his life, as well as the multifarious productions of his pen, are pretty minutely stated. Sir Anthony is now in his seventieth year, but he is not near so active as his contemporary and senior, Sir Henry Hallford.

As one of Sir Anthony’s productions will shortly come under notice in this Journal, we shall not, at present, advert to the somewhat eccentric character of this talented individual.

The Third Part contains portraits and biographical sketches of Lineacre, Akenside, and Sir C. M. Clarke, Bart.

Akenside is more known as a poet than a physician—and the two most remarkable traits in his character are, his shame of being the son of a butcher (a striking weakness of mind)—and his barbarous treatment of his patients in St. Thomas’s Hospital. If he had had half as much magnanimity as he had imagination, he would not have eschewed the humility of his origin—and, at all events, he would have curbed his butcherly propensities to the afflicted poor under his rude rule in a public institution. We have no patience with upstart tyrants—ashamed of what they ought to be proud, (humble birth)—and proud of what they ought to be ashamed—power of abusing their stations!

But the Lion of the Third Number is Sir Charles Mansfield Clarke, with a retrospective glance at his elder brother, Dr. J. Clarke, whose flashes of merriment were wont to set the class-room in a roar, in Old Burlington-street, some thirty-five or forty years ago. We well remember the droll and dapper little body, every gesture of whose countenance was calculated to inspire good humour, and excite the student’s risible faculties. But he passed from, the scene, at the early age of fifty-six years, bequeathing to his brother his wit, humour, talents—and, a *whew* of patients into the bargain!

Sir Charles was born in 1782, and consequently is in his fifty-sixth year. He was a fellow-student of our own, in Great Windmill Street, under the late Mr. Wilson, and the present Mr. Thomas. Having served a short time in the army, he entered on practice under the auspices of his brother; and commenced lectures with him in 1804. Although a very different character from Sir Henry Hallford, whom we have just sketched, yet a great deal of what we have said respecting the senior baronet will apply to the junior. But their professional avocations ran in very different channels. In an overwhelming majority of instances—in forty-nine cases out of fifty, the *lying-in* chamber is anything but a *dying-in* apartment. In the former, the doctrines of Malthus and Martineau are thrown to the winds, and the addition of every unit, doublet, or even triplet to the sum total of the population, is hailed with rapture, and announced with glee, throughout the puerperal mansion. Never was man or midwife better calculated to enjoy the hilarity of the scene, or augment its intensity, than Sir Charles Mansfield Clarke! This amiable and talented physician seems as though he had been born for beguiling the tedious hours of labour—*taking* the pains from the fair sufferer—and by his looks and language inspiring hope, and

banishing every showdow of despondency. To an inexhaustible flow of animal spirits, Sir Charles adds the auxillaries of wit, humour, anecdote, and the most joyous of countenances. But one remarkable and highly useful talent he possesses in an extraordinary degree—the happy facility of explaining and elucidating those numerous subjects which naturally occupy attention, and start inquiries in a parturient bed-chamber. Woman is always a curious and inquisitive creature; but when the *chef-d'œuvre* of Nature's works—the evolution of man—is in progress, her curiosity, and that of her attendants, are excited to the utmost stretch. On these occasions, the ingenuity of Sir Charles is never at fault. A screw, a wedge, a nut-cracker, a smoke-jack, or any of the most common implements, or familiar agents in mechanics, art, or science, furnishes his fertile brain with prompt illustrations of the complex and wonderful machinery which is in operation for bringing into this world an ample supply of human beings to compensate the havoc produced by the scythe of Time, the sword of war, and the ravages of disease. These, however, are only extrinsic, though important accomplishments in the lying-in chamber. Sir Charles has resources at command of a much higher order, and a more intellectual character. He had the good fortune of having an elder brother of prime talents, and large experience, who ushered him into practice, assisted him by his counsel, and shielded him with his name. If such inestimable advantages are comparatively thrown away on some people, it was not so with the subject of this memoir. Sir Charles was born with brains in his head, which is more than every one can boast of—and he did not put his brains into his pocket, whatever else may have found its way there. By means of a quick perception, keen eye, and inexhaustible energy, knowledge rapidly accumulated, and its valuable product were as rapidly diffused over an extensive field of practice. The consequences were, a princely fortune and an unbounded reputation, before the age of fifty years! Envy, too, which follows wealth and fame, almost as regularly as the shadow follows the substance, has not pursued the personage in question,—or, if it did, it skulked in holes and corners unseen, unheard. Sir Charles has been liberal to his brethren and they have been just towards him. Few other men could roll away to the coast or country, for five or six months annually—and return with a flowing sheet to a spring-tide of practice. Nothing but the unlimited confidence of the public, and the well-earned respect of the profession, would enable a medical man thus to sally alternately from the vortex of the metropolis to the “otium cum dignitate” of rural life, with undiminished influence or celebrity.

THE PHILOSOPHY OF MARRIAGE, &c. &c. By *Micheal Ryan*, M. D.
Churchill, 1838.

THIS, in the language of Yates of the Adelphi, is “A DECIDED HIT.” In the whole range of bibliography, there is not a more “taking title,” than the above. Old maids and decayed bachelors will peruse the work from curiosity. People who have been long in the happy state of wedlock will eagerly read it—wondering that they should have been *philosophers* so long, without knowing it—but to the boarding-school misses the “Philosophy of Marriage” will be an invaluable treasure. We all know what excellent smugglers these folks and their “aides” are, and we venture to prognosticate that the “Philosophy of Marriage” will be a “Stock-book” in every seminary of education between Kilda's Rocks and the Cliffs of Dover. How far it was prudent to address a work with such a popular title to the *general* as well as the professional public, may admit of some doubt. Hymen is represented with a torch in one hand and a

veil in the other—clearly indicating that but a very faint light was to be thrown on the hymeneal mysteries, which were to be kept *veiled* from eyes profane. In the "PHILOSOPHY OF MARRIAGE," the veil is partly, if not wholly thrown aside, and the meridian sun is permitted to shed his profane rays on the inmost recesses of the conjugal chamber! The *generation* of animals and vegetables is displayed with physiological minuteness, and opportunities are not seldom taken to digress from strict description to collateral—perhaps too vivid delineation. If the author had headed his book, "PHYSIOLOGY OF MARRIAGE," and addressed it to the profession—or, at all events not specifically addressed it to the PUBLIC, we should not have adduced the slightest stricture on the work; but when we find the following passage in the Preface, we consider ourselves bound to animadvert on the tendency of the publication.

"A philosophical, social, *physical*, and *medical* history of the REPRODUCTIVE function of the vegetable and animal kingdoms, and of the abuses and disorders resulting from it in the latter, will, it is hoped, prove instructive and interesting to the *majority of general*, as well as medical readers."

That it will prove *interesting* to general readers, we have no doubt—and that it will convey *knowledge* to most of them, which they would be just as well without, we are quite satisfied. The work, in fact, is perfectly well adapted for medical perusal—except in the over-minuteness of details respecting GENERATION. If these details are unnecessarily minute for the professional reader, how unfit must they be for the eye and the imagination of the community at large—and especially of the female sex!!

As the work will have a prodigious sale, we sincerely advise the author to strike out all the minute details of his favourite subject, "the generation of animals," and fill up the space with moral and physical disquisitions that shall not shock the eyes and ears of the general reader.

OBSERVATIONS ON SCIATICA, AND OTHER NEURALGIC AFFECTIONS, &c. &c. TOGETHER WITH AN ACCOUNT OF THE WATERS OF BAGNERES AND BAGREGE, &c. By *Richard Carmichael*, M.R.I.A. 8vo. pp. 30. Dublin. April, 1838.

We are very sorry to find that our talented friend and countryman, *has been* a victim to neuralgia—and to what is, perhaps, worse—dyspepsia. But half of our regret is dissipated by the good which has flowed from our author's sufferings. Many of the most valuable contributions to medical science owe their origin to the afflictions of individuals in the profession. Sydenham, Bree, and twenty other persons might be pointed out, in illustration—and now Mr. Carmichael is added to the list. There is, in this paper, a good deal of bold speculation, some original thinking, and a great many practical hints and observations—all conveyed in a discursive, and broken narrative, that is often entertaining, and sometimes even humorous. Indeed our candid author freely admits that his paper "is a melange which treats *de omnibus rebus, et quibusdam aliis*." Notwithstanding this admission, we hope there are a few "*quibusdam aliis*" yet in reserve from the same pen.

Mr. C. has a hobby, as will appear in the sequel. He will never die of hydrophobia, if he were bitten by twenty mad dogs. But we would not swear that he will never need a strait-waistcoat, on account of a complaint which we may christen hydromania. He is a veritable disciple, too, of Abernethy—attributing most of our ills to the *chylopoietic organs*. He traces the origin of his own disorders to "inattention of taking nourishment at regular and fixed periods." He used to fast from eight in the morning till eight in the evening—certainly too long a period. In October 1827, he was seized with acute pain in

the region of the stomach, attended with a sense of weight and distention extending towards the spine. The extremities became cold, the face pale. This spasm lasted some hours, but gave way to hot brandy and water, with opium. Similar attacks followed; but in November, he experienced a dangerous gastric fever, with incessant sickness, gastralgia, delirium, &c. This fever was followed by great languor, and depression of spirits, though his professional prospects were most flourishing. He was apprehensive of diabetes, his urine being sometimes sixteen pints daily. "On examination, however, the urine was found to be *only* albuminous." We think that such a condition of urine was quite enough to cause some alarm, especially when attended by a general bad state of health. The warm-bath, however, brought the skin into action, and the diabetes disappeared. Here Mr. C. enjoins a strict attention to the state of the urine; for, whenever it varies from the normal condition, especially when it becomes "dark, clouded, and turbid," the patient has eaten or drunk more than was prudent, or used food whose quality disturbed the digestive process—or, that he has prolonged his fasting too far—or exercised his body or mind too much. This may be true, but it does not follow that the urine will always be sensibly changed by the above causes. We doubt the strict letter of the following passage:—

"In fact, the state of the urine points out when errors are committed by the dyspeptic against the organic laws, with the same promptitude as the fabled ring of the Sultan Amurath indicated those against the moral laws." 6.

But to return. Although our author greatly improved in health, the slightest deviation from rigid temperance—the ingestion of vegetable food—or of more than a third in quantity of what used to be his allowance, brought on attacks of spasms and pain at the pit of the stomach, extending to the spine. A suspicion of gall-stones now arose in his mind, corroborated by a yellow appearance of the conjunctiva and even the skin. The attacks usually came on about two or three hours after food, and were only relieved by large and repeated doses of opium. This state went on for two years, and great debility and emaciation were the consequences. He now theorized a little, and came to the conclusion that the advent of chyme in the duodenum set the gall-bladder and ducts into activity in discharging the bile into the bowels—and that, as the secretion was viscid, the pain was occasioned by the expulsive efforts. From some little experience and observation, we venture to question the theory, and to suggest that these attacks were caused by the presence of food or chyme in the stomach or duodenum, whose mucous membrane was in a state of chronic inflammation, and whose nerves were in a condition of abnormal irritability and sensibility.

It was in the Summer of 1828 that sciatica was added to the long list of dyspeptic afflictions under which our author laboured. He hoped to subdue it by exercise—but this only increased its severity. He was obliged to be carried up stairs to see his patients, and, he candidly acknowledges that he madly persevered in the toils of his profession, long after his health had given way, and when he ought to have been seeking recovery in other climes—or, at all events, undisturbed by surgical practice. Fortunately Mr. C. is entirely independent of his profession, and is, therefore, the less excusable for sacrificing his health in the vortex of avocation.

Confined, at length, to his bed, Mr. C. tried a variety of remedies for the sciatica, such as mercury to salivation—turpentine to strangury—carbonate of iron—sarsaparilla—acupuncture, and all kinds of counter-irritation, but nothing gave relief, except large doses of opium, in the shape of black-drop. But the stomach and constitution became deranged in proportion to the ease procured by the opium. As a last resource, our author was advised to repair to the Pyrennees, and try the waters of Bagnères and Baréges. The voyage to Bourdeaux was prosperous and beneficial—and the only medicine

which he took in that city was allopathic doses of La Fitte and Chateau Margeau—prescribed by an anti-Hahnemanic practitioner—Dr. Millengen. Arrived at Bagnères, our author commenced drinking the Lascere spring—a pint, at the temperature of 96 degs.—going into the warm bath, where he remained an hour daily—and imbibed the same quantity on coming out. These waters contain a variety of saline ingredients, but in such minute quantities as would rejoice the heart of Hahneman himself, when assured of the infinitesimal dose and gigantic efficacy of the remedy. In about 25 quarts of the water there are 71 grains of soda, magnesia, lime, &c. Notwithstanding this, our author, “derived decided, and almost immediate benefit from their use.”

“The appetite improved, the tongue became clean; there was no longer a painful sense of distention, even after a slight repast. The bowels became regular; and the urine, which had been constantly turbid and loaded with a deep lateritious sediment, became clear, of a healthy amber color, and considerably increased in quantity. The neuralgic pains now seldom required the tranquillizing influence of opium, and I had the pleasure of enjoying a sound sleep every night. We, therefore, must attribute the virtues of these waters not only to their temperature, but to their unknown state of combination. In no instance are we authorized to estimate the utility of mineral waters by the quantity or quality of their saline ingredients, of which the Lascere spring of Bagnères is a sufficient proof.” 20.

The surprising efficacy of the Bagnères’ waters induced our author, since that time, to try the powers of an artificial substitute, in dyspeptic cases, with turbid urine—namely,

“A small proportion of neutral salts, dissolved in a large quantity of warm-water, to be taken every morning, an hour or two before breakfast; during which time I enjoin some exercise either on foot or horseback. The ingredients of my saline powders are, from twenty to thirty grains of the bi-carbonate of soda, to sixty or ninety grains of Rochelle salts—the tartrate of soda and potash; to this, if a chalybeate is indicated, a couple of grains of the sulphate of iron is added. This I direct my patient to take in half-a-pint, or even a pint, of warm-water, (temp. 90 to 94), if his stomach can bear it, which it usually can, if divided into two doses, allowing an interval of half-an-hour between each. Now this simple medicine, with three or four grains of blue-pill every night, or every second night, according to the state of the biliary secretion, with due attention to diet, I have found of more advantage in dyspeptic cases, attended with turbid urine and lateritious sediments, than all the farrago of tonic and bitter medicines usually resorted to.” 21

These have got the name of “Carmichael’s Powders,” but they are transmogrified into draughts, and tinged with tincture of cardamom.

Mr. C’s improvement was so rapid that, in a fortnight he was able to ascend the mountains to *Barège*, situated at an elevation of more than four thousand feet above the level of the sea. There the waters are sulphureous, and at a temperature varying from 100 to 135 of Fahrenheit. They are too nauseous for internal use, but the *douche* is almost omnipotent. The visitors are numerous, and the accommodations wretched. Mr. C. was obliged to wait a fortnight before he could get a dip in Medea’s Cauldron; then he was well nigh scalded to death.

“Eleven o’clock each night was the time appointed, and I considered myself fortunate to be permitted to use it even at this inconvenient time. At the appointed hour every night, I found a chaise-a-porteur at my lodging; In this I was conveyed in a few minutes to the *douche*. By the light of a glimmering lamp I found myself in a cell or dungeon, which appeared to be cut out of the rock; it was, however, so hot with sulphureous vapour, that at first I felt nearly suffocated, and I was glad to disencumber myself as quickly as possible of my clothes, in which I was assisted by a surly, grim, old attendant, who

seemed naturally to appertain to a place filled with fire and brimstone. As soon as I was stretched upon a mattress which lay upon the floor, he turned a large cock about ten feet from the ground; the water, which was at the temperature of 120 deg. Fahrenheit, fell therefore with considerable force, and such was the shock which I at first felt, that I could scarcely refrain from crying out; however, I summoned resolution, and bore it for fifteen minutes, which my attendant said was the longest period that any person had been able to suffer under this infliction, ten minutes being the usual time. By shifting my position, I was enabled to let the water fall in succession over the entire of the trunk of the sciatic nerve and those branches which had been most painful. I found it very fatiguing as well as warm-work, and that I really required the assistance of my grim attendant to put on the flannel dresses with which I had come provided. This being done, I was immediately reconveyed by the same machine into my bed-room, where, without taking off my flannel dress, I got into bed between the blankets, and in a few minutes afterwards was covered with a profuse perspiration, which continued for four or five hours, and was promoted by drinking freely of some mild warm beverage. As soon as it had ceased, I changed my flannel dress for another, and remained in bed for several hours afterwards." 26.

In a fortnight after this, the descent of rain and snow warned Mr. C. that it was time to depart. He made some delightful excursions, on horseback, among the defiles of the Appenines, and returned a new man to the Emerald Isle, where we hope he may live "a thousand years," to use an Oriental expression, in health and happiness—for of wealth he is already in possession.

Making ample allowance for the elasticity of feeling, and the involuntary exaggeration which invariably mingle with our descriptions as to the salutary effects of mineral waters, when we recover health after a long illness, yet there is quite sufficient in the foregoing narrative to induce us to give a trial, in inveterate cases, to a remedy which is now easy of access, in consequence of the facilities afforded by steam navigation. We have an idea that change of scene and air, together with the moral and physical impressions which our author experienced, contributed not a little, in this case, to the felicitous results above enumerated—and that a trip up the Rhine, to Wisbaden, Baden Baden, and the German spas in general, would have been attended with effects, not very dissimilar to those that happily occurred in the vallies of the Pyrennees.

THE ALTERNATIVE: DISEASE AND PREMATURE DEATH; OR, HEALTH AND LONG LIFE. By John Pinney, Esq. Highley, London.

PHILOSOPHERS have been much puzzled for a definition of man. We once thought we had made a notable discovery by characterizing him as a "suicidal animal." But, alas! the SCORPION crossed our path, and claimed equality with the Lord of the Creation in this glorious prerogative! It is to be borne in mind, however, that the scorpion only destroys his life when he has no other way of escaping his enemy; whereas MAN commits suicide in the most leisurely and even scientific way imaginable—quite in the slow aqua tofana line—spreading the act over a space of many years. Thus he consumes bread with alum or bone-dust in it—wine with lead—ale with cocculus indicus—water taken from the common sewers—tea crisped and coloured with copper—air reeking from a thousand lungs—every eatable and drinkable, in short, more or less poisoned, and pernicious to health. But this is not the worst of it. The natural strength of his constitution might overpower these minute doses of poison; but he commits daily *intemperance* in all these necessities or luxuries of life. He eats and

drinks twice as much as he requires—burns arsenicated candles when he ought to be in bed—and lies in bed four or five hours after the sun has summoned him from his close and air-polluted chamber! Against these and a thousand other physical ills and evil habits he has been warned by divines, philosophers, and physicians, from Plato down to our present author Pinney—and all in vain! The latter writer, though a lawyer by profession, has composed a volume of excellent didactic rules and precepts for maintaining health, and attaining extreme old age. They have only one fault—that the world cannot or will not put them in practice! Mr. Pinney is not at all of Juvenal's opinion, who avers that—

“ Few

Know their own good, or knowing it pursue.”

He thinks that every man knows, or may know, everything that is necessary or conducive to his health and happiness.

“ Is it not within the power of man to observe and judge of the quantity and quality of his diet? To consume no more at his meals than Nature demands? To avoid inhaling a confined, impure, or otherwise unwholesome air? To take daily active exercise? To rise early in the morning, and to retire to rest early at night? To insure the proper discharge of sensible and insensible perspiration, by exercise and daily ablutions of the body? To refrain from taking deleterious medicine? and to pay strict regard to the alvine exonerations?”

Now to every one of these questions we might safely answer in the negative. The physician of 50 years' study and experience would not be able to judge accurately on all those points—and if so, how could the world, who have their various avocations and callings to pursue, and to occupy their time, be capable of determining such difficult problems in physiology, hygiene, and therapeutics? If every man might thus be his own doctor, we ask Mr. Pinney, why every man might not also be his own lawyer? Surely the mechanism and laws of the human economy are as difficult to unravel and ascertain, as those of the criminal code, or civil jurisprudence. But as the man who pleads his own cause has generally a fool for a client, so the patient who prescribes for himself, on all occasions, will seldom be out of the hands of an ignoramus as his doctor.

At page 18, Mr. Pinney tells us that—“ years *alone* do not destroy life.”

“ It is insidious disease, springing from the wearing influence of irritation on the body, by means of indolence and intemperance, that causes the thread of existence to be prematurely severed; and thus

“ Man makes a death which Nature never made.”

To this we demur. Indeed in the very next page, the author contradicts this position of immortality. “ Notwithstanding the provisions made by Nature for correcting every derangement incident to the human frame, every one knows that it contains within itself the elements of its own dissolution.”

One of the best sections in the book is that on “ INDOLENCE” and “ LUXURY”—a perusal of which may do some good among the lazy and voracious classes of society. The chapter on *exercise* is also praiseworthy. At page 56 he relates an anecdote of our late worthy friend, Dr. Uwins, which we could give a very different version to; but peace to the manes of our amiable, jocular, and most eccentric friend, and occasional antagonist in medical discussions!

The chapter on “ MEDICAL REFORM” is the longest in the work; and although it contains some rather illiberal reflections on the profession, or rather some members thereof, yet there are some pertinent remarks in it, which are deserving of attention. We can only make room for one short extract.

“ In my opinion, the only effectual remedy for this evil is, a direct interference of the Legislature, to protect the public not only against ill-educated and uninstructed practitioners, but also to correct the ineffectual modes adopted by the different governing bodies of the Royal Medical Colleges for ascertaining the proficiency of Medical practitioners.

The constitution of the science and practice of medicine upon a secure and rational basis, might then be depended on; and this object might, I conceive, be most readily achieved, by investing persons of integrity and honour beyond the possibility of suspicion, with full authority to control and regulate medical education, *and fix one standard of qualification for the entire body of the profession.* I venture also to express it as my opinion, that the practice of medicine ought to be entirely separated from the business of compounding and dispensing drugs, which should only be furnished in the way of medicine by one not interested in the sale of them in that form."

We think that most of our readers will acknowledge that there is much truth in the foregoing passage. Even the proposal of having only one qualification for all the present classes or denominations of medical society is, like that of the Ballot, daily becoming more popular—and we have little doubt that, in less than twenty years, it will be the law of the land. Mr. Pinney makes some most *unjust*, and, except in a few very rare instances, *unfounded* remarks on the supposed confederacy between the physician and surgeons and the general practitioners and chemists, to fill the pockets of all, and drench the stomachs of the public. Unhappily, the present disreputable mode of remuneration gives rise to, and supports this suspicion in the minds of the community. Mr. Pinney, like most other speculative people, proposes a remedy which, however, can never become general—an *annual* allowance to the general practitioner from individuals or families. The plan is in operation among the Israelites, of this metropolis; but, from what we have observed, it does not very well succeed—at least we have not seldom seen a *NON-CONTRACTING* doctor called in, when the disease assumed a serious character, indicating a want of confidence in him who was paid by the year instead of the visits.

TREATISE ON HERNIA; COMPRISING THE SURGICAL ANATOMY OPERATIVE SURGERY AND TREATMENT OF THAT IMPORTANT DISEASE. By *Malcolm W. Hilles*. London, Henry Renshaw.

No disease, perhaps requires a more thorough acquaintance with its pathology than hernia, not only from the frequency of its occurrence, but also from the great liability there exists of its subjecting the patient to a dangerous and troublesome operation. To the operating surgeon, a strict knowledge of the anatomy of the parts connected with this disease, is, from the little delay of which it admits, absolutely indispensable. The little work now under review does not pretend to be an elaborate treatise on hernia, but seeks merely to point out, in as concise a manner as possible, the surgical anatomy and treatment of that formidable disease.

Mr. Hilles sets out with the different divisions which have been made of this disease; he next proceeds to the consideration of inguinal hernia; under this heading our author first details the surgical anatomy of the parts, and then explains the operation for the relief of strangulated inguinal hernia; he also notices cursorily the various modifications which exist of this disease; this section occupies by far the largest portion of the book. The next chapter is devoted to femoral hernia, the anatomy of which Mr. Hilles describes fully and clearly. The remaining pages of the work are devoted to hernia in general, and to a detail of its causes and general treatment. This concludes the work, but in taking leave, it is but justice to the author, to state that the book is carefully written, and contains much useful information, clearly and intelligibly conveyed.

PHYSICAL EDUCATION; OR THE NURTURE AND MANAGEMENT OF CHILDREN, FOUNDED ON THE STUDY OF THEIR NATURE AND CONSTITUTION. By Samuel Smiles, Surgeon. Edinburgh, Oliver and Boyd; London, Simpkin, Marshall and Co.

THE object of this work, according to the preface, is to assist parents, "by familiarly describing the construction of the infant's frame, the functions of life, and the laws that regulate them, as well as the gradual development of the sound mind in the sound body, by means of a proper education and management, and pointing out a few of the more general causes of derangement, such as a mother's or nurse's care may easily avoid." The first chapter furnishes an account of the peculiarities of the infant's constitution; and order of its development. The consideration of the digestion of infants occupies the next section, which contains several useful hints to parents respecting the nutrition of children. The three succeeding chapters are devoted to the functions of respiration, depuration by the skin, and voluntary motion; the seventh and last contains a *resumé* of all the contents of the preceding pages.

It can scarcely be expected, from the small size of the work, that any thing beyond a mere outline of the subjects on which it treats, can be afforded; the account therefore of the infant's constitution and of the physiology of the vital functions, is necessarily imperfect; this however is more the fault of the class to which the book belongs, than of the book itself. The work is written throughout in an easy familiar style, and is well worthy the attention of the general reader, for whom it is more immediately designed.

A PRACTICAL TREATISE ON FRACTURES. Illustrated with Sixty Wood-cuts. By Edward F. Lonsdale, Surgeon; Demonstrator of Anatomy at the Middlesex Hospital School of Medicine, and formerly House-Surgeon to the Hospital. 8vo. pp. 536, London, 1838.

MR. LONSDALE is a young gentleman of much professional zeal and ability. He has been at considerable pains to collect in one volume all that it is desirable to know with regard to the management of fractures, and his Treatise is one which is likely to be very useful. He has adopted the plan of illustrating the text by numerous wood-cuts, a plan which is daily growing more popular, and which is in itself very excellent.

It cannot be expected of us to offer copious account of a work so elementary as this must necessarily be. The order in which the subject is treated may be gleaned from the headings of the various sections. They stand thus. General Observations on Fractures—Of Particular Kinds of Fractures—Of Fractures of the Fore Arm—Of Fractures of the Humerus—Of Fractures of the Scapula—Of Fractures of the Clavicle—Of Fractures of the Bones of the Face—Of Fractures of the Bones of the Trunk—Of Fractures of the Femur—Of Fractures of the Patella—Of Fractures of the Leg—Of Fractures of the Bones of the Foot. As a specimen of the manner in which our author writes, we may take his view of the cause of non-union of fractured neck of the thigh-bone internal to the capsule.

"In order to produce bony union in fractures external to joints, it is found by experiments that have been made of late years, and from observations on the human subject, that it is necessary for the soft parts round the ends of the bone to take a most active part in the process; in fact they perform the sole part during the first stage of it, while the fractured surfaces are merely lying in apposition, without any actual union between them. This action and change that takes place in the surrounding parts, has been described, when speaking of the

union of fractures, as the provisional callus ; being essential for the formation of the capsule, which steadies the ends of the bone before they are actually united. Now we have only to consider the circumstances under which the neck of the thigh bone is placed when fractured, and when the capsular ligament is not torn, and it will be seen at once how different they are ; for now the fractured ends are completely isolated, and any change of action that may take place in the soft parts externally, can have no effect upon the ends of the bone themselves ; besides there is no bruising now of the cellular and muscular substance, as there is in fractures of the shaft of the bone, so that there is no disposition for the provisional callus to form, even were it possible for it to get at the ends of the bone. If then this first and most important part of the process cannot be performed, it is quite impossible that the ends of the bone themselves should unite, as the latter part is altogether dependant on the former. This, in my opinion, explains at once in a clear and simple way (without the necessity of having recourse to the want of apposition or rest, or to the little vascularity in the upper portion of bone), why it is that union by bone never takes place when the fracture is quite within the capsule, and the capsule itself not torn. I say never takes place, because I believe that the cases related in opposition to this assertion are not sufficiently unobjectionable to form a decided opinion upon ; for, in the words of Sir Astley Cooper, already quoted, 'I cannot give credence to such cases, until I see that the authors were aware of the distinctions between fractures within and fractures external to the articulation.' " 382.

There cannot be a doubt of the partial correctness of Mr. Lonsdale's, or rather of John Bell's view, for he candidly quotes that surgeon's sentiments to the same effect. But neither can there be a question, that the view is only partial, and that the imperfect vascular supply of the bone, and the difficulty of procuring adequate rest, are also powerful co-operating causes. In this, as in many other controversies in physic, men have been so anxious to discover some one cause when there are several, that they have allowed some very palpable fact to pass unheeded.

There are many acute observations, and many valuable suggestions in this volume. It would be, however, an injustice to the author to pick out unconnected remarks, and we therefore recommend our young surgical readers to purchase the work itself. Mr. Lonsdale deserves every encouragement.

EXPEREMENTS AND OBSERVATIONS ON THE GASTRIC JUICE, AND THE PHYSIOLOGY OF DIGESTION, &c. By *William Beaumont*, M. D. Reprinted with Notes, by *Andrew Combe*, M.D. Edinburgh, 1838.

Dr. BEAUMONT's experiments have excited great interest in every country of the civilized world, and Dr. Combe has conferred a benefit on the profession of this country by the present reprint, and by many valuable notes appended to it. It is a work which will not admit of analysis ; but its size and price will render it easy of access to all who take interest in the subject, or indeed in their profession. But as Dr. Beaumont has drawn up a summary of the inferences to be drawn from his numerous experiments, these deserve as extensive a diffusion as a periodical can give them. These therefore we subjoin.

"1. That *hunger* is the effect of *distention* of the vessels that secrete the gastric juice.

2. That the processes of *mastication*, *insalivation*, and *deglutition*, in an abstract point of view, do not, in any way, affect the digestion of food ; or, in other words when food is introduced directly into the stomach, in a finely divided state, without these previous steps, it is as readily and as perfectly digested as when they have been taken.

3. That *salvia* does not possess the properties of an alimentary solvent.
4. That the *first* stage of digestion is effected in the stomach.
5. That the *inner coat* of the stomach, is of a pale *pink* colour, varying in its hues, according to its full or empty state.
6. That in health, it is constantly sheathed with a *mucous* coat.
7. That the *natural temperature* of the stomach is 100° Fahrenheit.
8. That the temperature is *not elevated* by the ingestion of food.
9. That *exercise elevates* the temperature; and that *sleep or rest*, in a recumbent position, *depresses* it.
10. That stimulating *condiments* are injurious to the healthy stomach.
11. That the use of *ardent spirits always* produces disease of the stomach, if persevered in.
12. That the appearance of the interior of the stomach, in *disease*, is essentially different from that of its *healthy* state.
13. That the *agent* of chymification is the *gastric juice*.
14. That the pure gastric juice is fluid, *clear*, and *transparent* without *odour*, a little salt, and perceptibly *acid*.
15. That it contains free *muratic acid* and some other active *chemical* principles.
16. That it is never found *free* in the gastric cavity; but is always excited to discharge itself by the introduction of *food*, or other irritants.
17. That it is secreted from vessels distinct from the mucous follicles.
18. That it is seldom obtained pure, but is generally mixed with mucus, and sometimes with saliva. When pure it is capable of being kept for months, and perhaps for years.*
19. That it *coagulates* albumen, and afterwards *dissolves* the *coagula*.
20. That it *checks* the progress of putrefaction.
21. That it acts as a *solvent* of food, and alters its properties.
22. That like other chemical agents, it *commences* its action on food, as soon as it comes in *contact* with it.
23. That it is capable of *combining* with a certain and fixed *quantity* of food, and when more aliment is presented for its action than it will dissolve, disturbance of the stomach, or 'indigestion,' will ensue.
24. That its action is facilitated by the *warmth* and *motions* of the stomach.
25. That it is *invariably* the *same substance*, modified only by *admixture* with other fluids.
26. That it becomes intimately *mixed* and *blended* with the ingestæ in the stomach, by the motions of that organ.
27. That *no other* fluid produces the same effect on food that gastric juice does; and that it is the *only solvent* of aliment.
28. That *gentle exercise* facilitates the digestion of food.
29. That *bile* is not ordinarily found *in the stomach*, and is *not* commonly *necessary* for the digestion of food; but
30. That, when *oily* food has been used, bile assists its digestion.
31. That the action of the stomach and its fluids are the same on *all kinds* of diet.
32. That the *time* required for the digestion of food is various, depending upon the quantity and quality of the food, state of the stomach, &c.; but that the time ordinarily required for the disposal of a moderate meal of the fibrous parts of meat with bread, &c., is from three to three and a half hours.

* "I have now (Nov. 1, 1833) in my possession, some clear gastric juice, possessing all its original properties, unchanged and undiminished, which was taken from the stomach in Dec. 1832, about eleven months ago, and has been kept tightly corked in vials."

33. That the *digestibility* of aliment does not depend upon the *quantity* of nutrient principles that it contains.

34. That the susceptibility of digestion does not, however, depend altogether upon *natural* or *chemical* distinctions.

35. That *bulk*, as well as *nutriment*, is necessary to the articles of diet.

36. That digestion is facilitated by *minuteness* of *division* and *tenderness* of *fibre*, and retarded by opposite qualities.

37. That *solid* food, of a certain texture, is easier of digestion than *fluid*.

38. That *animal* and *farinaceous* aliments are more easy of digestion than *vegetable*.

39. That *oily* food is difficult of digestion, though it contains a large proportion of the nutrient principles.

40. That the *quantity* of food generally taken, is more than the wants of the system require; and that such excess, if persevered in, generally produces not only functional aberration, but disease of the coats of the stomach.

41. That the *ultimate principles* of aliment are always the same, from whatever food they may be obtained.

42. That *chyme* is *homogeneous*, but variable in its *colour* and *consistence*.

43. That towards the *latter stages* of chymification, it becomes more *acid* and *stimulating*, and passes more rapidly from the stomach.

44. That *water*, *ardent spirits*, and most other *fluids*, are not affected by the gastric juice, but pass from the stomach soon after they have been received.

45. That the motions of the stomach produce a constant *churning* of its contents, and *admixture* of food and gastric juice.

46. That these motions are in two directions, *transversely* and *longitudinally*.

47. That the *expulsion* of the chyme is assisted by a *transverse band*, &c.

48. That *chyle* is formed in the duodenum and small intestines, by the action of *bile* and *pancreatic juice* on the chyme.

49. That crude *chyle* is a *semi-transparent whey-coloured* fluid.

50. That it is further changed by the action of the *lacteals* and *mesenteric glands*. This is only an *inference* from the other facts. It has been the subject of experiment." 302.

It will be obvious that a vast majority of these inferences were come to by observation and experience, long before accident disclosed to Dr. Beaumont the secret operations of nature in the process of digestion. Notwithstanding the facilities which Dr. B. enjoyed, we have some doubts as to the truth of his inferences. Thus the very first is very questionable; for its far more likely that the state of the nerves rather than turgidity of the vessels produces the sense of hunger. In respect to the effect of gentle exercise after food as accelerating digestion, the fact may be true in a healthy stomach; but we are quite certain that, in dyspepsia, rest, or at the most passive exercise in an easy carriage, is infinitely more propitious to digestion than pedestrian or other active exercise. We quite agree with the author in his 40th inference, and have often pointed it out before Dr. Beaumont wrote.

NATURAL HISTORY.

I. A HISTORY OF BRITISH BIRDS. By William Yarrell, F.L.S. Secretary to the Zoological Society. Illustrated by a Woodcut of each species, and numerous Vignettes. Parts IV. and V. Price 2s. 6d. each Part.

II. A HISTORY OF BRITISH REPTILES. By Thomas Bell, F.R.S. F.L.S. Professor of Zoology in King's College, London. Illustrated by a Woodcut of each Species, with some of the Varieties, and numerous Vignettes. Part I. Price 2s. 6d.

THE delightful study of Natural History is daily growing on the tastes of the intelligent portion of the public. The zoological collections that are formed, or in process of formation, in the larger towns of the empire, both spring from this taste and will extend it. The same may be said of works like those before us—works produced under the superintendence of gentlemen of high attainments—and calculated to diffuse an acquaintance with the animals of our own country.

We have spoken on several occasions of a former work of the same description—the History of British Quadrapeds. That has been for some time completed, and may be found, we trust, in the library of many of our readers, as we have taken care to place it in our own. The works before us may be said to be sequels to that. They serve to complete the history of British animals.

Parts IV, V, and VI, of the History of British Birds, by Mr. Yarrell, are quite equal to their predecessors. The descriptions are accurate and lively—the woodcuts of the species graphic,—and the vignettes pretty. We cordially recommend a work so well commenced, and so certain to be carried on. We shall take care to notice the successive Parts as they appear, and to keep them, before the eyes of our readers.

We have as yet received only Part I of the History of British Reptiles. We presume that Part II. has not yet been published. The following extract from the Prospectus will explain the views of Mr. Bell in commencing it.

“In pursuance of the plan already commenced by the publication of the History of British Fishes and of British Quadrapeds, it is intended that the latter work, now completed, shall be immediately succeeded by a History of British Reptiles, by the same author; which, with the former works, and that of Mr. Yarrell on British Birds, will complete the Natural History of the Vertebrate Animals of the British Islands.

The Reptiles of this country, although few in number, are not devoid of considerable interest: their habits are popularly much misunderstood, and several innocent and useful species are shunned and destroyed from a mistaken notion that they are directly or indirectly noxious to man. The elucidation of their habits, the distinctive description of the species, their geographical distribution, and the history of the transformation of all the amphibious forms, are amongst the subjects which will be fully discussed.

The author has already to offer his thanks for the promise of much valuable assistance, particularly from a well-known zealous naturalist of Ireland, whose communications on the Reptiles of that portion of the kingdom cannot but be highly interesting; and he solicits from all who are engaged in the pursuit of British Zoology the continuance of the kind and liberal attention which he has already so extensively received during the progress of his former work.

The woodcuts will be numerous, corresponding in their general style with those of the preceding works; and in addition to a figure of each species, and of some of the most important varieties, will comprise many illustrations of structure and development, particularly the transformation of the Batrachian genera.”

We need not add our conviction that the work, indeed the whole series of works, deserve the encouragement of the public, and especially of the profession. Mr. Bell's name is a guarantee for accuracy and the ability of the execution. The Part before us is very good.

WORKS ON ANATOMY

I. A SERIES OF ANATOMICAL PLATES, &c. By *Jones Quain*. Division III. Nerves. Fasciculi L. to LX.

WE have so often had occasion to notice these Anatomical Plates, and with such commendation, that it is difficult to vary the language of approbation. The fasciculi before us quite maintain the reputation acquired by their predecessors; and the plates of the nerves bid fair, for they are not yet complete, to prove very valuable to the anatomical student. Taking into consideration their size execution, and price, there are few students who need or who ought to be without either a part or the whole of the work. When the division of the nerves is completed, and we trust that it will be a very copious one, we shall take care to apprise our readers of it, and to revert to the Plates. We wish them all success, and recommend them strongly.

II. VELPEAU'S ANATOMY OF REGIONS. Translated from the French. By *Henry Hancock*, Lecturer on Practical and Surgical Anatomy at the Westminster Hospital School of Medicine, &c. 8vo. pp. 565. London, 1838.

Mr. Hancock informs us, in a brief advertisement, that,

"In preparing the following treatise, it has been my desire to furnish the student with a complete work on the Anatomy of Regions, restrained within such limits as would make it available to all members of the profession. This will account for the omission of the plates, and that portion of the original which treats of General Anatomy. It has, also, been my endeavour, whilst I rendered the translation as literal as the various idioms permitted, to give the descriptions as clearly and simply as possible."

It is not necessary for us to speak of the merits of the original. M. Velpeau's Anatomy of Regions decidedly occupies the first place among works on that important subject. The anatomy of regions is little attended to in this country. Allen Burns has written a very excellent treatise on the surgical anatomy of the neck, but that may be said to be the only monograph on regional anatomy in our language. Mr. Harrison's surgical anatomy of the arteries is excellent, but that only treats of bits of regions, and of the immediate neighbourhood of the great arterial trunks.

We have in our possession an American Translation of M. Velpeau's work. But that is scarce in England, and is more voluminous than Mr. Hancock's. The latter Gentleman, has therefore rendered a service to our medical students and surgeons, by presenting to them, in a convenient form, a complete treatise on regional anatomy. He has executed his task with fidelity and judgment, and the work should be in the possession of every anatomical student. We strongly recommend it.

III. THE ANATOMY OF THE REGIONS, INTERESTED IN THE SURGICAL OPERATIONS PERFORMED UPON THE HUMAN BODY, WITH OCCASIONAL VIEWS OF THE PATHOLOGICAL CONDITIONS WHICH RENDER THE INTERFERENCE OF THE SURGEON NECESSARY. In a series of Plates engraved, on India paper, the size of life. By *J. Lebaudy*, M.D. With additions, price £1 4s. Bailliere, 1838.

WE take shame to ourselves for not having noticed this meritorious work before. It escaped us. M. Bailliere has displayed his usual spirit in publishing, at a reasonable rate, the work of M. Lebaudy in an English form. Indeed we may take this opportunity of directing the attention of our readers to M. Bailliere himself. His civility, attention to orders, and liberality, ought to be generally known in the profession. He deserves every possible encouragement, both private and public. But this by the way.

The work before us contains eighteen admirably executed Plates, devoted to the exhibition of—1, the Hyo-Cardiac Region—2, the Occipito-Clavicular Region—3, the Sub-maxillary Region—4, the Supra-Clavicular and Cervical Region—5, the Left Superior Thoracic and Inferior Cervical Regions—6, the Internal Brachial Region—7, the Bend of the Arm—8, the same deep—9, the Anti-Brachial Region—10, the Hand of a Subject who died of Tubercular Phthisis—11, the Fœtus in the Sixth Month—12, the Superficial Inguinal Region—13, the Deep Inguinal Region—14, Femoral and Inguinal Hernia—15, Femoral Hernia, the Sac laid open—16, Inguinal Hernia on the left side—17, the Superficial Popliteal Region—18, the Consequences of Burns.

It must be evident that these plates represent an important and considerable portion of the anatomy of regions. They are executed not only with clearness, but with accuracy and are calculated to be highly useful. The letter-press accompanying them is not only sufficiently explanatory of them, but likewise points out the best methods of performing those operations which most properly belong to the several regions.

IV. A SERIES OF ANATOMICAL SKETCHES AND DIAGRAMS. With Descriptions and References. By *Thomas Wormald*, Assistant-Surgeon and Demonstrator of Anatomy at St. Bartholomew's Hospital, and *Andrew Melville Mc Whinnie*, Teacher of Practical Anatomy at St. Bartholomew's Hospital, and late House Surgeon to that Institution. Highley, London, 1838. Price 4s.

THIS Part contains five Plates. They are light and easy sketches, intended as an introduction to the more elaborate systems of plates. In point of fact, the gentleman before us have published some of the diagrams which most modern teachers are in the habit of employing for the instruction of their pupils. They are calculated to serve the purpose for which they were designed.

CLINICAL REVIEW.

GUY'S HOSPITAL.

ON ABDOMINAL TUMORS.

GUY'S HOSPITAL REPORTS. Edited by *George Barlow*, M.A. &c. &c. and *James P. Babington*, M.A. &c. &c. Nos. V. and VI.

1. OBSERVATIONS ON ABDOMINAL TUMORS AND INTUMESCENCE: ILLUSTRATED BY SOME CASES OF ACEPHALOCYST HYDATIDS. By *Dr. Bright*.
2. OBSERVATIONS ON ABDOMINAL TUMORS AND INTUMESCENCE: ILLUSTRATED BY CASES OF OVARIAN DISEASE. By the same.

ALL practical physicians and surgeons are aware of the difficulty which usually hangs upon the discrimination of abdominal tumors. Any attempt at the diminution of that difficulty is meritorious—any degree of success attending it must be a subject of congratulation.

Dr. Bright informs us that it is his intention to devote several papers to the consideration of abdominal tumors and intumescence. He has actually offered two, and we trust will present, on future occasions, more.

The topics, he says, which naturally present themselves, admit of being arranged under the following heads:—1. The Integuments; 2. The Peritoneum; 3. The Stomach; 4. The Intestines; 5. The Liver; 6. The Spleen; 7. The Pancreas; 8. The Mesenteric glands; 9. The Kidneys; 10. The Bladder; 11. The Uterus; 12. The Ovaries; 13. Extra-Uterine Bodies; 14. Aneurism. But although the particular subjects for consideration are enumerated in this order, Dr. Bright disclaims a methodical pursuit of it.

Symptoms, we all know, are the language of disease. The special and the general phenomena which form the symptoms of abdominal tumors, are the form and appearance presented to the eye; the form still further discovered by the touch; the resistance ascertained by pressure; the sounds elicited by percussion; and, in a few instances, the sounds perceptible to the ear, either alone or by the aid of the stethoscope: and besides these local and physical signs, we look to the general condition of the system, and of the various excretions, as rendering us most important assistance, and being frequently indispensable towards the formation of a tolerably correct diagnosis.

"In studying the local indications of disease," continues our excellent and able friend, "the first object is, of course, to learn and fix in our minds the exact normal position of each viscus, and the modifications of form, appearance, and resistance which the muscles of the parietes are capable of impressing upon the different parts of the abdomen. There is, however, one circumstance connected with the abdominal viscera, which must always throw a certain degree of doubt upon all physical diagnosis, as directed to this part of the body; and this is the diversity which sometimes takes place in the the organs themselves, and that more particularly with regard to the colon; the arch and the sigmoid flexure of which not unfrequently form extensive convolutions, which render any inferences derivable from its natural position somewhat doubtful. The liver, likewise, occasionally deviates from its ordinary situation and form; and, in rare instances, an anomalous position of the kidney, or other organs, may be a source of fallacy: still, however, these deviations are not sufficient to interfere materially with our probable conjectures, though they must, of course, place a bar to that perfect certainty which it would be desirable to obtain, and which

at all events, it would be very satisfactory to look forward to, in such an important research."

Dr. Bright commences by pointing out with precision the boundaries of the various regions of the abdomen. The lines he draws differ a little from those of the best anatomical writers. Yet they seem to us unexceptionable, and rather better than those which occur at this moment to our recollection. The differences, however, between the boundaries of the regions which he proposes and those which are usually received, are too slight to induce us to quote his descriptions. When he speaks of the epigastric, or umbilical, pubic or lumbar regions, the reader may be satisfied with referring to the popular and familiar ideas of them. Nor need we quote his account of the organs and parts contained in each; the best works upon anatomy supply that information. Dr. Bright makes a very useful suggestion, which the majority of his and of our readers will, we fear, be more unanimous in admitting to be useful than in acting on. So prone to indolence are all, or at least, so averse are all to adding to the fatigue of the ordinary duties and occupations of life

"With a view of assisting in registering facts, it appears very desirable that every one, who is really anxious to make the most of the experience which comes within the reach—a duty which, unfortunately, from the time it occupies, we are all too apt to neglect—should provide himself with some ready mode of transferring to the corner or the blank page of his note-book an outline of the abdomen; upon which he may mark, as nearly as possible, the exact position of any tumor which he is called upon to treat: and, for this purpose, I have employed one or two different little contrivances, which it may not be amiss to mention. In the first place, having drawn on a thick sheet of paper the outline desired, we may, with a pin, make holes in a few prominent points; and pricking the note-book through these holes, the least-experienced draftsman will be enabled to make an intelligible sketch in a very short time. I have likewise had the figure cut in a brass plate, to use it in the mode of stencilling; and have thus procured, in a few seconds, upon any part of the page, such an outline as is represented in the figures in Plate II. Again, it would be a matter of a very few shillings' expense, to have a wood-cut or type formed, which might be used like a seal, even with common ink. It is obvious that no one single sketch can serve for every case; because the relative proportions of the different parts of the abdomen are somewhat altered, as it becomes distended, and consequently thrown out of its natural form; but still, the convenience of some such mechanical contrivance is very great, and there is no difficulty in being provided with more than one form of outline; and perhaps a second, representing the moderately-distended abdomen, would be quite sufficient for every purpose."

The first subject touched upon by Dr. Bright is that of:—

I. ACEPHALOCYST HYDATIDS.

Dr. Bright, for convenience sake, arranges abdominal tumors resulting from hydatids, among the diseases of the peritoneum. Of course, this is not correct.

Whatever may be the origin of acephalocyst hydatids, they are most common somewhere in the region of the abdomen, and the liver, of individual organs, is, perhaps most frequently the seat of them.

Almost the only indication of their existence, continues our excellent friend, at the commencement, is the occurrence of swelling, corresponding with the part in which they are situated; and the gradual increase of this is, for a time, the chief mark of the progress which the disease is making. Occasionally, when a rounded projecting elastic tumor has been observed and felt for a time, a sudden subsidence takes place, accompanied by more or less constitutional and local excitement; and then the tumor may never arise again; or, instead of one definite

tumor which had before been observed, several may appear to develop themselves within a limited period: at other times, the sudden disappearance of such a tumor may be followed by symptoms indicating peritoneal inflammation, so severe, as quickly to lead to dissolution. In a few instances, the subsidence of such a tumor is attended by the evacuation of hydatids, through the lungs, or the intestines, or in some other way, attended by various results.

The tumor, he continues, which presents itself externally, is most commonly, at first, distinctly referrible to the liver; and either occupies the right hypochondrium, or, protruding from beneath the ribs and their cartilages, encroaches upon the middle subdivision of the epigastric region, or descends into the right lumbar region, or approaches the umbilicus: its form is rounded, and its feel elastic; sometimes varying a little in the resistance it presents, being occasionally hard and even bony in some parts, and often distinctly fluctuating on percussion. When situated in the right hypochondrium, it is sometimes accompanied by jaundice. When situated in other parts, the derangement of the functions of the particular organs upon which pressure is made will afford collateral indications not to be neglected. This form of disease is not confined to any age, or either sex; and the length of its continuance is not ascertained, though it is certain that it may exist for a great number of years without destroying life.

Neither situation, nor the sensation yielded to the touch, are sufficient to enable us to pronounce positively on the nature of hydatid tumors. It is necessary to weigh all the collateral circumstances, and, even then, the diagnosis is generally obscure, until the appearance in some way or some place of a hydatid sets all doubts at rest.

Dr. Bright relates, more or less circumstantially, fifteen cases of acephalocyst hydatids. Their nature may be gleaned from the following enumeration of them:—

- Case 1. Hydatids in the Abdomen, of many years standing; shewing the acephalocysts in almost every stage of their existence.
- Case 2. Hydatids extensively occupying the Abdomen.
- Case 3. Hydatids developed in the Abdomen.—Death from Peritonitis.
- Case 4. Tumor of the Abdomen, supposed to depend on the presence of Hydatids.
- Case 5. Hydatid Cyst connected with the Liver. Death from suppuration of the sac and its consequences.
- Case 6. Hydatid Cysts in the Liver ossified.
- Case 7. Tumor in the Pubic Region from an Hydatid Cyst situated behind the Bladder.
- Case 8. Tumor in the Pubic Region from an Hydatid Cyst situated behind the Bladder.
- Case 9. Hydatid Cyst connected with the Liver, emptied by Paracentesis.
- Case 10. Hydatid connected with the Liver emptied, by Paracentesis, with success.
- Case 11. Hydatids in the Spleen bursting into the Abdomen, and causing death very speedily.
- Case 12. Hydatid of the Liver, suppurating and bursting into the Abdomen, causing immediate death.
- Case 13. Supposed Hydatid of the Liver bursting into the Cavity of the Abdomen.
- Case 14. Hydatids in the Liver, supposed to have passed off by the Intestines.
- Case 15. Hydatid Cysts in the Liver, discharging itself externally: and Death from Hæmorrhage.

We have not space, nor is it necessary, to present an account of each of these cases. We shall merely pick out such, or parts of such, as present remarkable features.

1. *Various States of Hydatids.* The first case is interesting, because on dissection it displayed a singular variety of the different states and conditions of the hydatid.

"The four principles masses into which these were distributed each afforded its remarkable peculiarity. In the large inferior tumor, the whole economy of the hydatid was in its most flourishing and healthy state. The parent, or protecting cyst, accurately lined the cavity in which it was contained; and the numerous progeny might be supposed to exult in the uninterrupted prosperity of their prolific community, and the pellucid medium by which they were surrounded. In all the other masses, or communities, some of the accidents to which the hydatid existence is subjected, were illustrated and proved.

In the small inferior cyst, placed behind the cyst of which I have just spoken, we found the parent hydatid separated from the cavity, that cavity contracted, and the hydatids crushed by the diminution of the cavity, and exposed to the influence of the absorbents of the body.

In the large superior cyst, the hydatids had apparently multiplied till they had perished for want of space: the parent cyst had died, the cavity suppurated, and the few hydatids which remained entire were floating in a mixture of pus and the decomposing *débris* of other hydatids: and here, likewise, the absorbents seemed to have been distended by the fluid of the cyst, and probably impeded in their action.

In the fourth cavity, the secretion of the liver had insinuated itself behind the parent cyst, destroyed its vitality, forced it from its situation, and, mingling with its contents, proved a source of death and destruction to the greater part of the hydatids it contained. Thus, as I have said, does this single case illustrate many of the most important epochs and accidents which mark the progress of the hydatid."

2. In Case 2, and Case 3, the hydatids would seem to have been, in the first instance, connected with the liver, and to have escaped from that viscus into the abdominal cavity. And yet, says Dr. Bright, it is observable, that none of these bodies seem to have effected a lodgment, or to have been developed, amongst the duplications of the mesentery and the convolutions of the intestines: and thus they have offered, comparatively, little interference to the peristaltic motions, and the general functions of the alimentary canal. It is probable that the immediate cause of this immunity is the close apposition of the convolutions, and the tendency which the intestinal motions may have to propel the little bodies forward; but in the pelvis, particularly behind the bladder, where a good opportunity of lodgment is afforded, we often meet with the hydatid cysts.

3. *Firm Adhesions of a Hydatid Cyst to the Abdominal Parietes—Death from Suppuration in the Cyst.* A woman, aged 42, had been twelve times jaundiced in twelve years. Six weeks before her admission into the hospital, she had another attack of jaundice, which went off in three weeks, and was succeeded by a rigor and low fever. There was a tumor at the pit of the stomach, extending almost to the umbilicus, tender on pressure, elastic to the feel, and appearing to have a solid base. This tumor, she said, had existed more or less for three or four years. Five days after her admission, she passed blood by stool, and in the course of twenty-four hours she died.

Dissection. The parietes of the abdomen were attached very firmly, by old adhesions, to the tumor, which occupied chiefly the right lobe of the liver: the tumor was of a membranaceous appearance, and vascular; and contained nearly a washhand-basin-full of hydatids, of all sizes, from that of a French walnut to a pea, but chiefly of about the size of a hazel-nut. The greater number were burst, opaque; but many retained their globular form. The fluid in which they were closely impacted was puriform; and the parietes of the large cavity

were lined internally with a layer of thick pus-like matter, with shreds, and cakes of a cheesy substance, adhering closely. The cyst itself, owing to the suppuration that was going on, had assumed a worm-eaten appearance. The peritoneum displayed the usual marks of recent acute inflammation.

Two points of some consequence appear pretty certain in the preceding case:—*first*, that the patient died of suppuration in the sac and inflammation of the peritoneum; *secondly*, that the old-standing adhesions between the hydatid cyst and the abdominal parietes, would have rendered an operation, prior to the occurrence of suppuration in the sac, practicable, and might have made it successful.

4. *Ossification of Hydatid Cysts.*—A woman died with jaundice and mania. The liver was found to contain hydatid cysts; of which one, about the size of an orange, was completely ossified, throughout more than half its extent; and there were two or three smaller ones imbedded in the liver, which were not larger than a pea, but were also ossified; and all of them were filled with the remnants of hydatids, pressed together; and, in some parts, the convoluted laminæ were capable of being separated and unrolled.

5. *Tumor in the Pubic Region, from an Hydatid situated behind the Bladder.*—Dr. Bright mentions two cases of this sort. We shall quote one because it displays the symptoms which characterised and may characterise again this affection. It is therefore of practical value.

"The patient, who had been labouring under other disease, complained of the difficulty he had in retaining his water: and, when an examination was made, it appeared that the urine was continually passing away, and that a tumor, bearing all the characteristics of a distended bladder, presented itself at the pubic region. This at once suggested the idea that the patient was suffering from retention of urine, produced by enlarged prostate, or some such mechanical cause. A catheter was introduced by a skilful surgeon; and a few drachms of perfectly healthy urine drawn off, without producing any diminution in the bulk of the tumor. As it was still supposed that urine was retained, more than one medical man attempted to draw it off, and at length the catheter became obstructed by the passing of small hydatids. When this was discovered, a sucking-pump was applied to the catheter, and thus a considerable quantity of the *débris* of hydatids was removed: however, the symptoms of this disease remained, his other complaints increased, and ultimately the patient died."

Dissection.—The tumor proved to be a large hydatid cyst, attached to the posterior part and the fundus of the bladder, and pressing so much forwards as to prevent entirely the bladder from being filled with urine; and this was the source at once of the tumor and of the constant escape of urine. The bladder itself was quite healthy; the catheter had passed by an opening from the urethra, behind the bladder into the cyst. This contained at least a quart of the shreds of burst hydatids. The tumor made pressure on the orifices of both the ureters, which were consequently very much distended with urine, and the pressure which had been made upon the kidneys by the fulness of the pelvis had produced a very extensive absorption of the substance of both. The fluid contained in the ureters was puriform, and there were some small clots of blood in the infundibula.

Dr. Bright makes an observation which is very judicious. If, in drawing off the urine from what appears a full bladder, the former is not dark-coloured, nor of strong odour, that may at once induce us to suspect that the latter is not really distended.

6. *Hydatid connected with the Liver, successfully emptied by Paracentesis.*—A

young woman was admitted in December, 1828, with an elastic swelling occupying almost the whole scrobiculus cordis, and inclining rather to the left side; it was not the least discoloured, and gave an evident sense of fluctuation. The swelling was divided into two lobes, of which that to the left was the largest; and the fluid seemed to pass from one to the other. Two years before, an unavailing attempt had been made, to open it by caustic. Mr. Key now employed a small trochar, and four pints of a perfectly limpid fluid, with little or no smell, nor any appearance of lymph, shreds, or flocculent matter, were drawn off. The operation afforded her great ease, and was followed by no symptoms of inflammation. For a time, the cyst appeared to fill gradually; she lost her colour, and had frequent tendency to faint; and afterwards a little diarrhœa came on, which, however, was easily checked. After this, however, the tumor gradually diminished—the patient left the hospital at the end of February with only some fulness at the scrobiculus cordis—got married—and has had no re-accumulation of the fluid. From an analysis made by Dr. Bostock, it appears that 1000 parts of the fluid contained—

"Water	987.5
Extractive, with a trace of albumen	4
Muriate of soda, with minute quantities of sulphuric acid and potash	8.5
	<hr/>
	1000.0"

After detailing the particulars of two cases, in one of which hydatids in the spleen, and in the other of which hydatid of the liver burst into the abdomen and proved immediately fatal, Dr. Bright details another instance of the same accident without the same disastrous result.

Supposed Hydatid of the Liver bursting into the Cavity of the Abdomen.—June 13, 1836. ———, a boy of 14 years of age, was admitted into Barnabas Ward, under Dr. Addison, with the chest quite deformed by the protrusion of the lower ribs of the right side; but more particularly by the entire displacement of the false ribs, affording a sense of elasticity, and almost of fluctuation in that part. At the same time, the liver was pushed below his usual position, so that its margin was to be felt far down in the abdomen, below the umbilicus. It appeared most probable that this, was an instance of hydatid cyst, situated on the convex surface of the liver.

At the end of two months he returned to his friends. In the latter part of August he suffered from hæmorrhage, after having a tooth drawn; and while recovering from this, in the beginning of October, he was attacked with severe pain in the swelling of the right side, and was very ill for several days; but recovered from that attack: and in the middle of the same month he applied as an out-patient at the hospital. Till the 25th of October the fluctuation remained the same, and the swelling increased a little: but on rising from his bed on that morning, he had a feeling of faintness, with a sudden sinking, and a peculiar motion, as he stated, in the tumor, which from that time greatly diminished in bulk, giving the conviction, to those who had seen him most, that the contents of the supposed hydatid tumor had escaped into the abdomen, without, however, producing any unpleasant symptom, except, perhaps, a little sickness at the stomach.

"Oct. 26. I saw him at his house: the tumor had subsided; but there was evident fulness and fluctuation at the pubic region and below the umbilicus. He had taken two or three doses of calomel, followed by sulphate of magnesia; and had passed a tolerably healthy loose dejection. He had experienced a little pain that afternoon in the lower part of the abdomen, but very little tenderness. His chief pain was in the act of passing urine, as if from the contraction of the bladder. Pulse about 140, sharp: tongue slightly furred: countenance flushed."

"28. I examined the abdomen very carefully, and found the margin of the liver much raised above its former position descending only half-way to the umbilicus, and not apparently adhering to the diaphragm. The fluctuation at the lower part of the abdomen was diminished; there was neither tenderness nor pain. Bowels well open; he had scarcely moved from the same recumbent position, and had eaten nothing but a little gruel each day. Pulse 96. The ribs still bulged a little on the right side.

Rep. Pil. Hydrarg. gr. iij. Ext. Conii gr. iij. bis die."

After this the fluid decreased in quantity—he continued for some months in an emaciated state—but his state in Sept. 1837, was satisfactory:—"he is by no means thin, has some natural colour, the spine is straight, the abdomen not full, and the thorax is almost symmetrical.

He works for a printer; and has no complaint but that of a painful weakness in the left knee, which as well as the right, seems to fall inwards, more than it has been wont to do.

The only other case we think it necessary to mention is the following. It seems to shew that hydatid cysts when they present at apertures, should not be much meddled with.

Hydatid Cyst in the Liver, discharging itself externally, and Death from Hemorrhage.—Dr. Babington visited Mrs. Rastall, with Mr. May of Bow Lane. Her skin was of a deep yellow hue, and her secretions sufficiently demonstrated an obstruction to the natural course of the bile. This state of jaundice was described to have existed for many months. On examining the abdomen, a hard tumor, irregular in figure, and rising into roundish masses, was felt on the right side, issuing from beneath the ribs, and extending to the pit of the stomach. There was no fluctuation in the tumor. Mrs. R. was pregnant. She gave birth to a healthy child, was again pregnant, went her full time, and bore a living infant. But the tumor progressively increased.

"In the beginning of December last, Mr. May again requested me to see Mrs. Rastall and informed me, that a day or two before, the parietes of the abdomen had spontaneously given way, and an enormous discharge of fluid had issued from the aperture. On removing a poultice and bandage, which had been subsequently applied, I found an ulcerated opening, rather less than an inch in length, situated immediately below the umbilicus. From this opening a portion of what, at first view, bore a general resemblance to intestine, protruded about half-an-inch. On closer examination, its collapsed and puckered form, its total insensibility, and its greater thickness, led to a belief that it was the empty cyst of an hydatid; and, by gradual and gentle traction, I succeeded in bringing it away. The part which passed last was thinner, and more gelatinous in appearance, than the rest, and was torn in coming out. The whole was nearly as large as a bullock's bladder; and would probably have contained, previously to its rupture, a gallon and a half of fluid. No pain was felt during its abstraction; and the patient expressed herself as relieved by its removal. We saw her on the following day, and found that she had passed a good night. A second cyst now presented itself at the aperture; but as it seemed, on gentle traction, to be adherent, no force was used to withdraw it. The bandage with which the abdomen had been bound was soaked by a constant drainage of serous fluid. On the day following my second visit, blood instead of serum, began to make its appearance; and this was accompanied by such a degree of prostration, rigor, and faintness, as led to the apprehension that some serious internal hæmorrhage was taking place. This was verified, as the day advanced, by more alarming seizures of syncope; and one of these proved fatal, in the course of the night. The hydatids had caused all the mischief in this case, was demonstrated during life; and an examination, after death, proved that one of these had formed in the interior of the liver, near its under surface; forcing, as it grew, the substance of

that organ upwards and forwards, and its posterior peritoneal coat backwards. A large cavity, lined with a false membrane, and filled with grumous blood, was found thus bounded. A second hydatid, the cyst of which remained, seemed to have occupied a portion of the same cavity; and a third, about the size of a walnut, appeared on the convex surface of the right lobe."

Such are the more important of the cases detailed by Dr. Bright. The observations that he makes are judicious, discriminating, and instructive. Yet all that it seems necessary to extract from them relates to the subject of treatment. He remarks that :—

"While confined to one cyst, whether formed by a solitary hydatid, or by one which is productive, and therefore contains within it a number of others, I believe that an opening, or a puncture, offers the best chance of cure; and if the cyst be solitary, it is not unlikely that the result will be satisfactory. If, on the contrary, the cyst contain a great number, much risk will be incurred, lest some of the excessively minute bodies should find their way into the peritoneal cavity; where, in all probability, though they might not produce any intense inflammatory action, they would gradually develop themselves and multiply. On the other hand, there is great danger in the existence of such a cyst, lest it should burst suddenly into the abdomen; and then the extent of mischief is incalculable: so that, supposing our diagnosis quite certain, there would be the greatest justification in performing the operation. As, however, our diagnosis in a single cyst is infinitely more difficult than when the disease becomes diffused, it will be always right to employ an exploring needle, such as has been recommended by Dr. Davies in cases of empyema, before an opening is made. Should the operation be performed, the most careful treatment must afterwards be adopted, to prevent any portion of the fluid, which will almost certainly be left behind in the cyst, from passing into the abdomen."

In what way the puncturing of an hydatid cyst might be expected to prove useful, is a question worth inquiry. If the cyst contain numerous hydatids, it will be no easy matter to make such an opening as would allow the larger of these bodies to escape, without too great a risk to the patient's life; but perhaps this might not be necessary to the success of the operation. I imagine one of the best results which could arise from the operation, would be the destruction of the parent or protecting cyst. Whether a simple puncture would effect that purpose, I cannot say; but probably it would; more especially as, when a considerable portion of the fluid contents of the cavity was withdrawn, the cyst would be likely to fall in, and separate from the parietes of the cavity, and thus subject the whole contents to the influence of absorption: but this result would be more certainly obtained, if a more extensive rent or separation could be inflicted on the hydatid. In the cases which have been detailed, there are three instances of the external discharge of the hydatid, besides those discharges which have taken place by the intestines and the lungs. Of these cases, one was spontaneous, and was followed by hæmorrhage from the cyst after the separation of the hydatid. In another case suppuration was far advanced in the cyst before recourse was had to the operation. In the third the operation was performed upon an hydatid which proved apparently to be solitary and unproductive, and a cure was effected. Here, probably, the cyst was destroyed; and being separated from the walls of the cavity, which were healthy, the absorbents acted as far as was necessary, while the cavity contracted.

The chief good which it appears likely that medicine can effect, is to excite the action of the absorbents when the parent hydatid is dead or separated: for till that preliminary step is obtained, the absorbents may act upon the system, but are not likely to act upon the hydatid, or the fluid contained within it; and it would be a legitimate object in the administration of medicines, to destroy the life of the parent hydatid: but, as yet, we know little upon this point of treatment."

Dr. Bright suggests, but does no more than suggest, repeated doses of turpentine, electricity, the application of ice. The whole paper is a valuable one.

II. OVARIAN TUMORS.

This paper, occupying 89 pages, is contained in a succeeding, the sixth Part, of the Reports.

1. Dr. Bright observes that there are, perhaps, four distinct diseases which form pelvic tumors with fluid contents, and which are therefore spoken of as ovarian dropsies. The first presents itself as a simple bag, containing serum; whose external surface appears to possess all the attributes of the peritoneum, attached to the surface of the ovary or some neighbouring part, and supplied by blood-vessels from the point whence it arises; sometimes, sessile; more frequently attached by a longer or shorter neck; generally single; but occasionally presenting the appearance of being composed of more than one cyst. This simple cyst, with a long footstalk, is not of unfrequent occurrence; and is sometimes congenital, or at least exists within a few months after birth. The tumor is generally of small dimensions, from a size less than a pea, to that of an orange; probably, at times, to a larger. The sessile variety, continues Dr. B., of the simple cyst often develops itself into the broad ligament; and appears still more decidedly placed beneath the natural fold of peritoneum than the last variety, so as apparently to involve within it the Fallopian tube; which, however, is found passing round it, and not materially altered from its natural state, or slightly dilated, but not communicating with the cyst.

2. "The second source of tumor containing fluid, connected with the uterine appendages, is found in a distended state of the Fallopian tube, which is not unfrequently seen obstructed and filled with serous fluid, so as to be much dilated, forming a pouch of considerable size; and of often both of the Fallopian tubes are similarly affected. Whether, however, the dilatation is ever of such dimensions as to present a very distinct elevation above the pubes, I cannot say from my own observation: I have much more frequently found these sacs capable of containing a few drams, or at most an ounce or two, of fluid. One, which is preserved in the Museum of the College of Physicians, and of which a plate has been published in Dr. Seymour's excellent treatise on the diseases of the ovary, is five or six inches in length, and would probably contain half-a-pint of fluid."

Dr. Bright alludes, en passant, to the distended state of the Fallopian tube, which sometimes occurs from purulent or scrofulous deposits. But he has never seen this of sufficient size to form a decided abdominal tumor.

3. "The third form of tumor, the existence of which, as a separate disease distinct from others, appears to me very doubtful, consists of a simple vesicular body, developed beneath the proper tunic of the ovary; supposed to be produced by an accumulation of fluid in one of the Graafian vesicles. Tumors, said to be of this kind, differ greatly in size: they are frequently not larger than a hazelnut; sometimes of the size of an egg; and occasionally are believed to attain to a great magnitude, so as nearly to fill the abdomen. Yet, from the description which has sometimes been given of the contents of such supposed cysts and their glutinous quality, it is probable that they have often been no other than largely developed cysts of a malignant character. There is a state of the Graafian vesicle by no means uncommon: and of which we have several specimens in the Museum of Guy's, where a coagulum, more or less stained with blood, or of a somewhat glutinous character, is collected in the vesicle, distending it to the size

of a hazel-nut, or sometimes larger: this, likewise bears a doubtful relationship to the malignant forms of tumor; but from the circumstances of some of the patients and their youthful age, I suspect that they are, at least occasionally, unconnected with such disease."

4. The fourth, proceeds our able author, is by far the most frequent form of ovarian tumor; and is essentially a specific disease, assuming all the varieties of structure which result from the numerous modifications of that morbid action called malignant. It is in the cellular tissue of the ovary that this malignant disease originates, a fact on which Dr. Bright insists; yet he owns that it is often quite impossible to say whether it be the meshes of the cellular tissue, or the vesicles of De Graaf, which are become the seats of the morbid deposits, or to what extent new structures have been generated.

Dr. Bright dwells (how could he do otherwise!) on the propriety, the advantage of discriminating, if possible, between the symptoms of a simple cyst, and those of malignant disease of the ovary. But he admits that that discrimination is difficult.

"I do not profess," he says, "to be conversant with the history of the simple cyst: I believe that the only indication afforded is a tumor, more or less spherical, felt first in one of the inguinal regions of the abdomen, and very gradually, if at all, ascending. That this may take place very early in life—that its growth is slow—that the constitution suffers little or not at all—and that after the cyst has attained even a large size, it occasionally disappears, without any very evident cause, or under the action of remedies, or from being burst internally by some accidental occurrence—the fluid, in this last case, passing off by Fallopian tubes, or taken up by the absorbents, and hurried very rapidly through the kidneys; and though this effusion of fluid may be accompanied by a certain degree of peritonitis, the symptoms are, in general, by no means so alarming as might be expected. I am not sure that I can recall to my memory a single dissection where the simple ovarian cyst has been the cause of death, or has even advanced to such a size as to be the subject of material inconvenience to the patient during life. In most of the cases—and they are pretty numerous—in which simple cysts have been discovered after death, they have been too small to have attracted notice during life, and have been casually detected. Their attachment has been even more frequently to the Fallopian tubes, or to their fimbriated extremity, than to the ovaries themselves; and they have seldom exceeded the size of a small plum. The subjects in which they have occurred have varied, as to age, from children in arms, to women in the decline of life; and in these latter cases, though still small, they have often borne, in their structure, such evidence of having long existed, that I am inclined to believe their increase to be generally very slow; and that they frequently become stationary at an early period.

With regard to the accumulation of fluid in a Graafian vesicle, leading to its gradual distention, this likewise cannot easily be detected; and, if detected, must with great difficulty be distinguished from other forms of ovarian tumor. As soon as it has acquired a sufficient size, it will, of course, be felt rising from the pelvis; less spherical, and less moveable, than the simple cyst; less lobulated than the malignant disease: which circumstance, together with its more moderate growth, and the little inconvenience it produces, may afford a clue to our diagnosis, and guard us against an inordinate anxiety for the result. It is probable, however, that this form of tumor more frequently attains a large size than the simple cyst; and that it more frequently affords those instances of sudden disappearance, by accidental rupture of the cyst, or of gradual decrease, assisted by medicine, than any other form of ovarian growth. When rupture takes place, there is very often a more or less acute inflammatory action induced; and, according to the various circumstances arising from that inflammation, the

succeeding history of the diseases will be modified. Still, it is a fact, that from a very early period of its history, to the very end, we are not only unable to make any decided distinction between it and the malignant disease during life; but are seldom able to demonstrate, even after death, the precise nature of the tissue in which the cyst has been first developed."

These are candid admissions and judicious statements. The experience of most men will bear out Dr. Bright. He next passes to the more ordinary form of ovarian tumor, and presents a brief account of its prominent points.

It seldom shews itself much before the twentieth year of life. The first recognized symptoms is usually a tumor, not altogether devoid of pain, in one of the inguinal regions; and which, on examination, evidently rises out of one side of the pelvis, and even at this early period is sometimes distinctly lobulated or uneven in its form, and unequal in the resistance its different parts afford on pressure. The growth of the tumor is, on some occasions, so unperceived, that though it may have originated on one side, it has already risen into the public, and even the umbilical region; and when the medical man is first consulted, its lateral origin is with difficulty ascertained. At other times, the enlargement is at first slow; and after some indefinite period, the increase takes place suddenly; so that, in a few months, the whole abdomen presents to a common observer, the size and appearance of pregnancy far advanced. After this the tumor may seem not to advance, but it grows more tense, the respiration is more embarrassed, the lower extremities grow anasarcous, and the operation of paracentesis is obviously necessary. Dr. Bright gives the following hints on the mode of examining and determining the nature of the abdominal tumor.

"Casting the eye over the abdomen in the earlier part of the disease, the greater rotundity or projection of one part will often be most apparent; and the tumor will in this way immediately discover itself, as occupying the iliac and lumbar region on one side, and extending over half at least of the umbilical region, or beyond the umbilicus, so as to encroach on the opposite side: at other times, its extent will be less; while in the more advanced cases no inequality will strike the eye; but the rounded form of the abdomen, while the patient lies on her back, will contrast it with the more ordinary ovoid appearance of ascites, as well as distinguish it in some degree from the form produced by the uterus distended in pregnancy. In many cases moreover, the eye will be struck by a great enlargement of the subcutaneous veins, as I have just observed, and such as often takes place to a still greater degree in ascites.

On making more firm though violent pressure on the various parts of the abdomen, we often find at once the general sense of fluctuation; and ascertain inequalities which neither the eye, nor the hand when passed but gently over the surface, will enable us to detect: and then it sometimes happens, particularly if the abdomen be not very tense, that we discover considerable masses of unyielding matter, partaking of the general rounded feel of the whole disease, but conveying the impression of more or less flattened spherical bodies attached to the inside of the fluctuating tumor; and these bodies are sometimes so large, and sometimes so variously placed, as to suggest, to the inexperienced observer, the idea that the liver, the spleen, or the kidneys, are enlarged, and in some way involved in the disease."

"Sometimes the sense of fluctuation is very indistinct or very partial, and various parts of the tumor yield it in different degrees. At other times the fluctuation is even more evident than the most extreme cases of ascites; and sometimes, as the patient lies on the back, a thin layer of fluid is discoverable, external to the great distending tumor; so that when the points of the fingers, placed on the surface, are moved forwards with a jerk, they are evidently resisted, after pressing aside a little fluid, by the surface of the tumor within. Sometimes this layer of fluid extends over a wide space; and the fluctuation it

yields by percussion may be plainly felt, or even seen as a wave passing over a large portion of the abdomen."

Percussion is valuable. In ascites, the intestines usually float upon the surface of the fluid, and are distinguished by the tympanitic sound at the highest part, whatever the position of the patient. But, in ovarian disease, the viscera are displaced, and retain their position under all circumstances.

The state of the subcutaneous cellular membrane should be investigated, to ascertain whether there are any tubercular deposits in it. The existence, too, of adhesions between the tumor and the peritoneum should be a matter of inquiry. To all this should be added an examination *par vaginam*.

The fluid drawn off by operation is glairy, or muscilaginous, or dark, or turbid, or loaded with cholestrine. When the fluid is nearly withdrawn, floating as it were, in the flaccid abdomen, one or perhaps two or three hard bodies are discovered; one round; another flat, and shaped like a placenta. The fluid now accumulates still more rapidly. In a few months it must again be drawn off. Its character is often changed: it is more gelatinous or more opaque, sometimes becoming puriform; or it is mingled with blood or cæbriform matter. Operation succeeds to operation, with diminished intervals, the constitution sympathizes; and after a limited number of months or years, the patient sinks, exhausted by weakness, overcome by inflammation, or worn out by pain.

Our Author relates, more or less fully, the particulars of twenty-six cases. Their number precludes an account of them, but a notion of their nature and of the facts which they exhibit may be gathered from an enumeration of their titles. The first two cases are instances of simple cyst, in one growing from the appendage of the uterus on the left side, in the other attached to the ligaments of the uterus on each side.—Case 3, is Incipient Ovarian Dropsy, probably of a malignant character.—Case 4, Diseased Ovary, with Cysts, in a case of extensive malignant disease of other organs.—Case 5, Ovarian Dropsy of eleven years' standing.—Death probably from inflammatory changes going on in the interior of the cyst.—Case 6, Ovarian Dropsy, Anasarca, and Ascites.—Death from Peritonitis, after the fluid was partially drawn from the cyst.—Case 7, Ovarian Dropsy of many years' duration; shewing several cysts in different conditions;—with the analyses of the fluids they contained.—Case 8, Malignant Tumor in Abdomen, probably Ovarian—discharging constantly from the wound made by paracentesis.—Case 9, Compound Ovarian Cyst—death from exhaustion.—Case 10, Compound Ovarian Cyst—the fluid never removed—slow exhaustion, and death—adhesions of the tumor to the parietes discerned during life.—Case 11, Compound Ovarian Cyst—the fluid never removed—death from irritation and exhaustion.—Case 12, Ovarian Dropsy, fatal from Peritonitis after the partial abstraction of the fluid.—Case 13, Cyst, probably a diseased Graafian vesicle, communicating by ulceration with the colon—death from irritation of the mucous membrane of the large intestine.—Case 14, Ovarian Cyst, probably a diseased Graafian vesicle, fluid partially removed—inflammation of cyst and peritoneum.—Case 15, Ovarian Dropsy—paracentesis—death from peritoneal inflammation.—Case 16, Cyst in the broad ligament of the Uterus—ruptured—death sudden.—Case 17, Ovarian Tumor, partly fluid, partly fungoid—paracentesis rendered necessary, from the great pain experienced—death, after several operations, from peritoneal inflammation.—Case 18, Ovarian Dropsy—possibly enlarged Graafian vesicle—rupture of the cyst internally—death from inflammation of the cyst and neighbouring parts—the cyst tympanitic.—Case 19, Malignant Ovarian Cyst ruptured internally—subsidence of the tumor—death in about two years, from increase of the disease.—Case 20, Ovarian Cyst ruptured internally—death after three years, with emaciation.—Case 21, Compound Ovarian Cyst, ruptured internally: followed by death from peritonitis.—Case 22, Malignant Disease of the Ovary—fibrous tubera in the uterus—paracentesis—subcutaneous tubera on the abdomen—death from extensive scirrhus disease.—

Case 23, Ovaries affected with a modification of the malignant disease.—The peritoneum extensively involved similar affection.—Case 24, Ovarian Tumor, with extensive growth of pendulous malignant tumors from the peritoneum.—Case 25, Malignant Ovarian Tumor, with Ascites, communicating disease by contiguity to the Sigmoid Flexure and Rectum.—Case 26, Ovarian Dropsy.—Cerebriform disease, communicating to contiguous organs.—Case 27, Hysterical distention of the bowels, mistaken for Ovarian tumor—Operation to attempt its removal.

Appended to the Case are some general observations on the diagnosis, prognosis, and cure of ovarian tumors. The following hints on the subject of diagnosis may be quoted.

“The circumscribed extent of the tumor, and consequently of the fluctuation, distinguishes all ovarian cysts, in the early stages, from ascites. The fluctuation, uninterrupted by the intestines in any part, distinguishes the disease in more advanced cases. The lateral situation of the tumor, in the early stages, distinguishes it from pregnancy in the normal state of the viscera. Its duration distinguishes it in the more advanced stages: the suppression of the catamenia discharge adds probability to the existence of pregnancy; but there is no certainty to be derived from this indication; as in ovarian disease the catamenia are sometimes regular, sometimes irregular, sometimes wanting: alterations in the mammaræ are likewise uncertain indications; and in doubtful cases, nothing, except examination by the vagina, can give tolerable certainty; and then the shortened cervix, and the weighty feel of the uterus, would decide the question in favour of that organ. From the malignant disease of the fundus of the uterus, the situation will in part distinguish it: the hardness of the tumor, and the peculiar abrupt nodules which the diseased uterus presents, contrast well with the soft and yielding feel which the subsidiary tumors of the compound ovarian cyst usually afford. The origin of these cyst from the pelvis generally distinguishes them from all tumors of the abdomen, except diseases of the uterus, or a thickened or distended bladder; and the central situation of both these viscera suffices, for the most part, to fix disease upon them, when it exists.”

In reference to Prognosis, it is impossible to abridge this already abridged passage:—

“We find, in the cases above recorded, that the malignant ovarian tumor, left to itself, often destroys life in a short time, partly by irritation, but probably in a great degree by the mechanical pressure it exerts (Cases 10 and 11). That if paracentesis is performed, life may be prolonged; but that sometimes, from the inflammation excited by the circumstances attending the operation (Cases 6, 12, 14, 15, 17, &c.), and sometimes without any discernible inflammation (Case 9), death takes place. That in other cases, the malignant disease seems to undermine the constitution, and gradually leads to a fatal result. (Cases 23, 24, 25, 26). That, occasionally, the internal rupture of the cyst produces death (Cases 16, 18, 19.) But still, with such a discouraging prognosis before us, we have every reason to feel that the interposition of our remedial means is productive of great alleviation, and is capable of prolonging life; and although the duration of this disease is often limited to months, and still more frequently to a very few years, yet instances are not wanting, in which ten, twelve, or a still greater number of years have been passed in tolerable comfort; and in giving our prognosis, we should suffer ourselves and our patients to have the full benefit of the hope which such cases are calculated to inspire.”

On the treatment and the expectation of cure, Dr. Bright does not, nor can he say much. He alludes to the operation of excising the tumor as a doubtful and dark operation. And so it is. It may succeed, but a common operation it never can be. Dr. Bright recommends, of course, attention to the secretions, the mitigation of pain, the setting right, as far as possible, of what is evidently wrong by the usual and appropriate means.

Iodine, he thinks should be given with care, and much should not be expected from it.

Of paracentesis Dr. Bright speaks at large. An early operation is not recommended by him, and for obvious reasons.

"I conceive," he says, "that the time for the operation is arrived when the tumor pretty fairly occupies a large portion of the abdomen, giving the appearance of pregnancy advanced to the last months, and before any material mischief seems to threaten, either to the surrounding viscera or to the parietes of the tumor itself: for there can be little doubt that the forcible distention of the sac, continued beyond a certain limit, will endanger its inner surface, and, perhaps, prove one cause for those ulcerative changes which often take place and are the source of great constitutional irritation, and of death, as seen in several of the foregoing dissections."

The part at which the puncture is to be made is a matter worthy of consideration.

The part in which the fluid is chiefly accumulated must, as far as possible, be ascertained. For Dr. B. has known instances in which the operator has been foiled, and even obliged to make a second puncture, from having pushed the trochar into a solid mass: and even when distinct fluctuation has been ascertained, the thickness of the fluid has sometimes prevented its passing by the puncture; or, by opening into some secondary cyst, a few ounces only have been drawn off. In one of Dr. Bright's cases, another source of disappointment resulted from the trochar passing into a firm band formed by the broad ligament and the Fallopian tube stretched over the tumor; and affording such resistance, that the instrument pushed the parietes of the tumor before it; and when withdrawn, under the belief that it had gone deep into the cyst, no fluid escaped.

It is right, continues our author, before operating, to be quite sure that the bladder is empty; and, of course, enlarged veins must be carefully avoided: and, in general, it will be right to examine the state of the uterus per vaginam; more particularly if it be the first time that the operation has been performed. Should the sensation given by pressure on the abdomen lead to the belief that adhesions have taken place between any portion of the cyst and the parietes, it will be well to select this part for the operation, as we shall thus avoid one important source of danger.

With the following directions we conclude:—

"Another very important point, is the quantity of fluid which should be drawn away. Some there are who think that it is most advisable to take away but a small portion of the whole, just sufficient to relieve the urgent oppression; supposing that by this means the cyst is more likely to contract, and believing that the fluid does not re-accumulate so rapidly in this case as where the distending contents are at once withdrawn. On the whole, however, I generally recommend that as much of the fluid as possible should be removed; because I dread, above every other danger, that of a portion of the fluid escaping into the peritoneum; of which we run a great risk, if the wounded parietes of the tumor fall in upon a considerable quantity of fluid: and in order to avoid this still further, a regular gentle pressure should be maintained, as is usual during and after the operation in ascites; and for some days the most perfect tranquillity should be enjoined, the patient being treated like one who is recovering from labour."

We hope Dr. Bright will continue to furnish such papers as these to the profession.

SPIRIT OF THE FOREIGN PERIODICALS, &c.

OCCASIONAL ESISTENCE OF ANIMALCULÆ IN THE HUMAN BLOOD.

THE occasional existence of Animalculæ in the human blood has been admitted, for a long time, by some of the best authorities in Physiology.

Brera and Treutler were the first to discover and announce the present of the *polistoma* (one species of these entozoa) in venous blood. M. delle Chiaje, who has long devoted himself to microscopic researches on this subject, has confirmed the accuracy of these gentlemen's statements, and he has also minutely prosecuted his enquiries respecting the physical characters of the animalculæ, and the mode of their generation.

He is inclined to regard the *polistoma* as a result or product of a pathological condition, and, therefore, of a spontaneous development or generation—as well indeed as all other *entozoa*. The morbid products, he says, may become organised and live at first at the expense of the tissue, in which they arise; they may then detach themselves from these, and in this state enjoy an independent existence—as for example the *Acephalocysts* or *Hydatids*. The most simple *Acephalocysts*, (those of which the animal character was so long called in question), are now admitted to be genuine animalculæ, provided with a head, and also with special suckers, according to the researches of M. delle Chiaje.

With respect to the *Polistoma*, M. Chiaje informs us that he has discovered worms of this genus in two cases only hitherto. Both patients were labouring under phthisical disease.

In one, the blood rejected during the first attack of hæmoptysis, exhibited half-an-hour afterwards, several small flat worms, somewhat similar to minute leeches, and either floating in the serum, or adhering to the sides of the vessel—which had been perfectly clean, before the blood was received into it.

The two physicians in attendance showed them to M. delle Chiaje, who

at once recognised them to be the *Polistoma Sanguinea*. He examined them minutely with the aid of a microscope, and quite satisfied himself of their real character. The same phenomena were observable in the subsequent hæmoptotic attacks of this patient.

The second case was very similar to the one now mentioned. A young man was labouring under hæmoptysis: the rejected blood, on several occasions, presented a considerable number of these worms to sight.

M. Chiaje alludes to the case detailed by Mr. Bushman of Dumfries, and recorded in the number of the "Medico-Chirurgical Review," for January 1834. (It may be interesting to reproduce a brief account of this case here.

The patient, a young boy, was labouring under *influenza*, for which he was bled. In the blood, after it had remained at rest for an hour, Mr. B. discovered numerous worms, some floating in the serum, and others imbedded in the crassamentum.

Mr. Rhind of Edinburgh, an able naturalist, drew up an accurate report of these animalculæ. They were from one half or two-thirds of an inch long; they consisted of an articulated body, a head with rudiments of antennæ and palpi, and a tail terminating in two tubular bodies, or stigmata. The colour of the animals were bright red. In structure, colour, and size they correspond, says Mr. Rhine, exactly to the larvæ of the *Tipula olaracea* fly, which in Summer is so abundantly found in ditch and river water.)

Various other cases also are mentioned. Thus Notorianni has informed us that he discovered thirteen worms of the genus *Polistoma* in one of the sinuses of the aorta; and Borelli, Redi, Vallisnieri, and Lucarelli have recorded similar instances.

M. Chiaje has extended his enquiries to the blood of the lower animals; and he has discovered that animalculæ are often present in the circulating fluids, not only of the higher Vertebrata, but

also of many of the Invertebrata. Thus, in the blood of several *Sepiæ* and also of the Sea-mouse, he has succeeded in detecting occasionally a species of round or ovular animalcule. The mesenteric vessels of the *Rana pipa*, and the cranial veins of the porpoise have been found to contain worms similar to the *Polistoma*. We also know that the Aneurismal sacs of the Meseraic vessels in the horse frequently contain the *Strongylus Armatus*; and that M. Andral has met with *Acephalocysts* in the pulmonary veins of man.—(*Clinique Medic. t. iii.*) *Annali Universali di Medicina*.

REMARKS ON CONSTITUTIONAL HÆMORRHAGES WITH CASES. USE OF THE SULPHATE OF SODA AS AN INTERNAL REMEDY.

Case 1. A man, twenty-four years of age, was admitted into the Hôtel Dieu, in consequence of a false aneurismatic swelling in the palm of the right-hand, which, having been mistaken for an abscess, had been opened. This man had been subject, since his boyhood, to frequent recurrence of Epistaxis, and to very profuse bleedings from any accidental wounds.

His life had once been seriously endangered by the hæmorrhage from some leech bites on one of his knees. The swelling of the hand had come on after a violent strain, which, he (the patient) said, had dislocated his thumb-joint at the time. The surgeon, who first saw it, mistook it for an abscess, in consequence of the absence of all pulsation and from the distinct sense of fluctuation, which was perceptible in it. The hæmorrhage had been very abundant, and could not be restrained by pressure on the radial and ulnar arteries, but only by firm pressure on the wound itself. Whenever the compresses were removed, it returned; and M. Roux, therefore, determined at once to tie the arteries of the fore-arm. The radial one was first secured; and, as the bleeding still continued, the ulnar also was tied. The hæmorrhage seemed to be arrested

for the time; but, in less than an hour, all the bandages were found soaked with blood, which had oozed not only from the palm of the hand, but also from the two incisions in the fore-arm, which had been made during the operations. Suspecting that the blood might continue to flow through the interosseous arteries, the dresser applied a tourniquet above the elbow-joint; but even this failed, and the patient died in the course of the evening.

The dissection was performed with great care. Almost all the viscera of the three great cavities were pale and exsanguine: some fluid blood was found in the right, but none in the left, cavities of the heart. The blood-vessels of the affected limb were minutely injected; but no irregularity, either as to distribution or visible formation of their branches, were anywhere discoverable. The radial and ulnar arteries had been fairly tied; there were, however, no traces of any coagulum either above or below the seats of the ligatures. The deep palmar arterial arch was *intact*—(in other words, was not involved in the aneurismatic tumor). The anastomosing branch, which passes between the superficial and deep arches, appeared to be the only one which was lost in the aneurismatic sac. The soft parts surrounding and forming this sac were reduced to a state of a blackish *bouillie*, in which no distinction of tissues could be discovered.

The reporter of the preceding case is inclined to attribute the diseased action,—which, we may suppose, gave rise to the very remarkable disposition to hæmorrhage,—rather to an extreme fluidity of the blood itself, than to any change of structure in the blood-vessels, or in any other of the solid parts. That the blood was, indeed, remarkably fluid, and uncoagulable, cannot be disputed; but as to the cause of this change we are quite in the dark.

Case 2. A man, forty-one years of age, who had frequently suffered from profuse *epistaxis* and *hematuria*, and also from rheumatic pains, accidentally struck his side against the edge of a

door: the consequence of this was an enormous ecchymosed swelling, accompanied with extreme general languor and tendency to syncope.

On a former occasion, the mere pressure of another person's arm on the patient's elbow had caused a most extensive extravasation of blood from that part up to the shoulder.

It is worthy of notice that two uncles of this man had died, when young, from accidental hæmorrhages: one of them from the bleeding after the extraction of a tooth.

His only sister too died in her infancy from a hæmorrhage from the vulva; and his two brothers, after having been subject for many years to violent epistaxis, perished; the one in consequence of a blow on the head, which had caused an enormous sanguineous infiltration of the scalp, and the other from secondary hæmorrhage after ligation of the crural artery, rendered necessary by the profuse bleeding from an accidental wound in the calf of the leg. (*Revue Medicale*, October, 1835.)

The *Hæmorrhagic Diathesis*, or *Constitution* seems to have been very remarkable in this family.

Case 3. In the number of the *Archives Generales* for October 1833, there is the detailed history of a case of hæmorrhagic diathesis, in which, as in the preceding one, the patient, a young boy, was afflicted at the same time with rheumatic pains. Dr. Hugues had made diligent enquiry as to the health of the other members of his family, and had learned the following particulars. All the *males* were subject to occasional spitting and vomiting of blood; also to hæmaturia, epistaxis, and to troublesome hæmorrhage from any part, which chanced to be wounded. All of them suffered from troublesome rheumatic pains, whenever they were affected with any form of hæmorrhage. Several had died in their youth; and in those who survived to more mature years the hæmorrhagic disposition seemed to become less and less decided. It had been frequently remarked that, if any of them chanced to be blistered, the dis-

charge from the vesicated surface was generally bloody.

Several of the *females* of this family, although they have exhibited the hæmorrhagic diathesis in their own case, had transmitted it, *sans exception!* to their offspring.

If the preceding observations are quite accurate and to be depended upon, they present a very remarkable instance of a peculiarity of constitution in the *male* of a family, while the *females* were exempt from it. The co-existence of the hæmorrhagic attacks and of rheumatic pains,—the former always preceding the latter—deserves also to be noticed.

In the *Archives* for July 1835, we find some particulars of a family, the *males* of which exhibited a similar disposition to troublesome hæmorrhages. One, a boy nine years of age, perished from excessive bleeding after the application of cupping-glasses to the knee; another, three years younger, died from a wound on one of his temples, from which there had been a most profuse hæmorrhage; a third, thirteen years of age, nearly lost his life from the obstinate bleeding from leech-bites upon his shoulder.

Two of these children had long suffered from rheumatic pains.

Case 4. A man, forty years of age, and of a soft lymphatic constitution, was subject to most troublesome hæmorrhage from very slight wounds. On two occasions the bleeding after the extraction of a tooth had required, for its arrest, continued compression for several days. At another time it was necessary to use the actual cautery to stop the bleeding from leech-bites; and the same means were, on one occasion, requisite to stop the bleeding from a simple wound of a finger. Several times large ecchymoses had formed after very slight bruises.

It was for a swelling of this sort on the inner side of the thigh, that he had consulted M. Marjolin. This eminent surgeon was inclined to attribute the singular tendency to hæmorrhage, which existed in such a case as the present, rather to an atony of the capillary ves-

sels, than to any marked fluidity of the blood itself, although he was not disposed to deny some influence to this latter cause.

It deserves to be noticed, in reference to this subject, that wounds of the larger blood-vessels, such as that made in venæsection, are usually found to heal as readily in *hæmorrhagic* individuals as in any other set of patients. This, however, is not always the case. Dr. Otto of Philadelphia, has recorded the history of a woman, *all of whose sons* had a remarkable tendency to troublesome hæmorrhages from the slightest wounds. One, if not two, of these sons died in consequence of the loss of blood from ordinary venæsection. A curious circumstance is mentioned of the extraordinary power of the *sulphate of soda* in arresting hæmorrhage from some of those persons. It was found that if this salt were taken, for several days successively, in doses large enough to purge the bowels, the bleeding ceased, and the wound speedily began to cicatrise.

Krimer also alludes to the efficacy of this remedy in such cases. He alludes particularly to the history of one family, of which all the *male descendants, for four generations*, had been most strikingly subject to hæmorrhagic accidents.

M. Sanson, in his *Concours* thesis for 1836, mentions the case of a man, who died from a urethral hæmorrhage: six of his children had perished from the bleeding from casual wounds.

Mr. Blagden has given us the particulars of a man, who nearly perished from hæmorrhage after the extraction of a tooth: it was not completely checked for nearly three weeks.

This patient subsequently had an alarming hæmorrhage from a trifling wound of the scalp; and on a future occasion, the bleeding which followed the extraction of a tooth proved so obstinate as to require the ligature of the carotid artery, before it was arrested! The particulars of this case are reported in Samuel Cooper's "Dictionary of Surgery."

In concluding these remarks on Constitutional hæmorrhage, we may once

more state that the cause of this most serious condition may be either an atony and defect of contractility in the minute blood-vessels of the part, or a dissolved and unusually thin state of the blood itself, which is thus but little disposed to coagulation. Probably both of these agencies are present in most cases.

Finally, in the treatment of such cases, the use of internal astringents has, perhaps, been hitherto too much neglected. The use of the preparations of lead and of some other mineral astringents may probably contribute very materially to promote the utility of local styptic applications. We have found it stated in the report of one of the preceding cases that the administration of large doses of sulphate of soda had a marked effect in arresting the hæmorrhage. Was this owing at all to the rapid discharge of serum by copious watery stools?

When we have reason to suspect any scorbutic tendency in the patient's constitution, the use of lemon-juice and of other vegetable and mineral acids, should, as a matter of course, be adopted.—*Archives Generales.*

REMARKS ON SPASM OF THE GLOTTIS. INFLUENCE OF ENLARGEMENTS OF THE THYMUS GLAND.

This affection has, it is well known, attracted great attention since the publication of Dr. Ley's elaborate work on *Laryngismus Stridulus*. Among the causes of this obscure malady, there is one which hitherto has been much overlooked in this country, (Britain,) but which has been repeatedly insisted upon of late years in Germany—we allude to an enlarged or hypertrophied state of the thymus gland.

This form of the disease is in truth the "*asthma thymicum*" of continental writers. Before Dr. Ley propounded his ingenious speculations as to the influence or *modus operandi* of swellings of the cervical glands in inducing spasmodic affections of the larynx, it was supposed that the mere pressure of the

enlarged thymus gland acted directly by contracting the passage of the air-pipe.

The difficulty however of explaining a paroxysmal disease by reference to a permanent organic alteration was always felt; and we therefore applaud Dr. Kyll, the author of a very excellent paper on spasm of the glottis in a recent number of Rust's Magazine, when he attempts to shew that enlargements of the thymus gland operate rather *indirectly* by pressure on some of the laryngeal nerves, than *directly* by contracting the passage of the larynx itself. We are so entirely ignorant of the functions and uses of this gland, that we cannot indeed hope to arrive at any very satisfactory views of its pathology. Whether enlargements of its structure may act in other ways, besides that of mere mechanical pressure, in inducing laryngeal and some cephalic affections, we cannot say; but of this we are assured from the results of our own experience, that in not a few cases of convulsions and of rapidly fatal hydrocephalus* in infants, the thymus is found extremely hypertrophied, and occasionally charged with an unusual quantity of milky serum throughout its tissue.

We may, *en passant*, allude to the frequent co-existence of lesions of the heart, with hypertrophy of the thymus gland—a complication, which will account for the extreme tendency of children so affected to convulsive disease of all forms.

The following case of excessive *hypertrophy of the thymus* will be read with interest.

A fine healthy infant, six months old, awoke most unexpectedly from a long sleep, with all the symptoms of spasm of the glottis: these continued for two or three minutes and then ceased, so that he fell asleep again, and was as well as usual next morning.

* Whether the enlarged gland acts in this case, by compressing the jugular veins, and thus retarding the free return of the blood from the head, is doubtful. Certain it is that many forms of dropsy of the thorax, and more especially of the abdomen, are referrible to such a cause—venous compression.

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A similar paroxysm returned for many nights successively; and in the course of a short time, these attacks became more frequent and of longer duration, and the child was occasionally seized with them during the day, more especially after laughing, crying, &c. &c. The disease was attributed to teething. Two months after the first attack, Dr. Kyll was summoned one night, in consequence of an unusually severe paroxysm, followed by general convulsions, which lasted for upwards of an hour. The head was hot, and the carotids were felt beating with great violence. The symptoms never fairly gave way, or yielded to the remedies employed; and the child died on the 10th or 11th day after this last severe paroxysm.

On dissection, the thymus gland was found enormously enlarged; covered all the anterior part of the chest, and extended from the larynx downwards as low as the diaphragm. The lungs and pericardium were quite concealed by it, and it firmly compressed the jugular veins at their termination: its weight was upwards of 13 drachms. The jugular veins in the neck were manifestly dilated. The right cavities of the heart were soft and enlarged; and the left ventricle, on the contrary, was thicker and firmer than usual. The vessels of the brain were gorged with dark blood, and the ventricles contained a quantity of serum.

It is quite evident that the hypertrophy of the thymus was the primary disease in the present instance, and that the convulsive and hydrocephalic symptoms were attributable to it.

We have already said that spasm of the glottis may be owing to several very different causes—such as inflammation of the encephalon, or some other form of cerebral irritation; inflammation of the medulla oblongata; dentition: a tumefied state of the cervical lymphatic glands; hypertrophy of the thymus gland, &c.

As a matter of course each variety of the disease has certain peculiar or diagnostic symptoms, which may assist the cautious physician in determining the genuine character of the case.

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Thus in the *cerebral*, and also in the *medullar* variety of the affection, there are always some precursory signs which will indicate the existence of irritation at some point of the nervous centres: for example, there is a feverish heat of the head, with quickened pulse, general restlessness, tendency to convulsions, irritability of the stomach, and, in one of the forms, tenderness perhaps of some point of the spine.

When the disease is connected with an enlarged state of the glands of the neck, the child will be usually found to be of a scrofulous temperament, weak, subject to cough, and derangements of the stomach and bowels, &c.

It may now be asked, if there are any symptoms which indicate an hypertrophied state of the thymus gland. Fingerhuth is of opinion that auscultation affords considerable assistance in the diagnosis of this affection. He says that, when this gland is much enlarged, the extent and force of the respiratory murmur over the upper and fore part of the chest are considerably impaired, but we feel convinced that not much value can be attached to this sign; for independently of the extreme uncertainty which attends all auscultatory explorations in young children, the diminution of the respiratory murmur over the space indicate may be discovered in many cases, where there is not the slightest symptom of disturbed health. Some writers have alleged that enlargements of the thymus gland are usually accompanied with a displacement of the heart *dextrad*, and therefore that its pulsations are to be perceived more towards the right side than in health. But this sign also is utterly valueless. Perhaps more assistance in the diagnosis of the case may be derived from attention to the following circumstances. The children, affected with hypertrophy of the thymus, are usually subject to a dyspnœa more or less permanent; attacks are more frequent when they are lying on their backs; the tongue is often observed to be protruded from the mouth, even during sleep; and percussion over the *thymic* region yields a dull sound, similar to that elicited by percussion over the region of the liver.

Whatever be the cause of spasm of the glottis, our *prognosis* should always be very guarded; for a fatal termination may most unexpectedly occur at a time, when the child seems to be in perfect health. If the spasm continues beyond a minute or two at the utmost, life will be extinguished, whatever the cause of the spasm may have been.

We do not propose at present to make any remarks on the treatment of this very interesting disease, as we should thereby far exceed the limits of this notice. It must be obvious that the treatment must vary very much, according to the cause of the disease, the temperament of the patient, and so forth.

To those, who may wish to pursue the literary history of this affection, the following catalogue may be useful. Kopp, *denkwürdigkeiten in der ärztlichen praxis*. 3 vol. 1836. Frankfurt.

Marsh, *Dublin Hospital Reports*, Vol. 5. Caspari and Pagenstecher, *beschreibung des astham thymicum*. Heidelberger Klin. Annal. Vol. 7.

Schneider, *ueber astham thymicum*. Med. Conversations-blatt. No. 46. 1830.

Brueck, *ueber Asthma Thymicum*. 1b. No. 22. 1832.

Pittschaff, *ueber Asthma Thymicum*. 1b. Conradi, *ueber Asthma Thymicum*, in den *Gottinger Anzeigen*, No. 32, 1832.

Conradi, *handbuch der Speciellen Pathologiae und Therapie*. Cassel, 1833.

Wanderlich, *ueber Asthma Thymicum*, in *Med. Correspond-blatt- des Württemberg Vereins*. 1832.

Brunn, *ueber Asthma Thymicum*, in *Wochenschrift für die ges. heilkunde*. No. 49. 1833.

Kornmaul, *Inaugural-abhandlung ueber das Asthma Thymicum*. Zweibrücken, 1834.

Hirsh, *ueber Asthma Thymicum*, in *Hufeland Journal*. Juli, 1835.

Fingerhuth, *bemerkungen ueber Hypertrophie des Thymus*: in *Wochenschrift von Casper*. No. 36. 1235.

Rosch zu Schwenningen, *ueber Asthma Thymicum*: in *journal von Hufeland*. 1836.

Haugsted, descriptio thymi, &c. Hafnia, 1832

Graf, ueber Asthma Thymicum; in jahrbucher des Arztl. Vereins zu Munchen. 11 Jahrgang.

Albers, beobachtungen auf dem gebiete der Pathologie. Bonn. 1836.

Rust Magazin fur die gesammte heilkunde, von Casper.

maigres,' boiled fruits, eggs, fish, and white meats, &c."

Remarks. We (the Rev.) have no objections to offer to the above course of medication in phthisical disease, as it seems to us to be sufficiently rational, and to agree very much with what is usually prescribed by most scientific physicians.

But what will our readers think of M. Sue's discretion, when they are told that he seriously proposes to induce atrophy of a diseased lung, (when there is reason to believe that the disease is confined to one side of the thorax,) by either making and maintaining an opening into the chest, or by trying the bronchus of that side, or, lastly, by keeping up a firm and uniform pressure by means of straps and bandages.—*Rev.*

ON THE TREATMENT OF PHTHISIS.

The following is the formula of treatment recommended by M. Sue, the chief physician of the Hôtel Dieu at Marseilles, in a late memoir communicated to the Royal Academy of Medicine at Paris, and which has been reported very favourably upon by its commission.

"1. General and topical bloodletting—the cupping-glasses to be preferred to leaches as a local means of depletion—according to the strength of the patient, and the seat and complications of the disorder.

2. The administration of a mild emetic, morning and evening: a grain of tartrate of antimony with a few grains of ipecacuan will be found convenient.

3. The use of raw slugs, as an article of diet, or of ass's milk, according as either of these articles agrees with the patient's system.

4. Frictions on the chest with croton oil, or with antimonial ointment; and, as the disease advances and the tubercles begin to soften, the establishment of several small caustic issues, which should be allowed to suppurate naturally by covering them with simple sparadrap. These tissues should be renewed as the former ones dry up.

5. The application in the evening of the *ioduretted pommode*, (from half a drachm to two drachms,) under each axilla.

6. A syrup, to which M. Sue gives the name of *digitaline*, and which is prepared with digitalis, ʒj., white poppies, ʒj., and cyanuret of potassium, eight grains.

7. The diet to consist of vegetable creams, rice-water and other 'potages

TWO CASES OF GENUINE GANGRENE OF THE LUNGS.

Case 1. An aged man, deformed and much given to drink, had for many years been subject to a cough, which distressed him greatly during the Winter months. In March 1837, he had, during several days, attacks of vomiting of blood—these as well as the cough, subsided under the use of nitre and of bitter salt. After a debauch, he was again seized with the *hæmoptysis*, which would not yield to any remedies employed. On practising auscultation of the chest, the sound of pectoriloquy was heard over the gibbous part of the thorax; and the respiratory murmur in other parts was feeble, and blended here and there with a mucous râle. The sputa, which were abundant, were mixed with blood. A diarrhœa came on; and this resisted every astringent. The pulse however kept tolerably well up; and the mental faculties remained clear and unaffected. The breathing only became more embarrassed, &c; and the patient, on rising out of bed, fell back and expired.

Dissection. Both sides of the pleural bag contained a quantity of a yellowish green serosity. The right lung was dark-coloured, flabby, and seemingly

exsanguine; the left one was much shrivelled up and reduced in volume; its parenchyma, when cut across, was found to be reduced into a soft, pul-taceous mass, of a blackish red colour, and emitting a most offensively fætid smell. In short, it exhibited all the characters of the *diffused gangrene* of Laennec, in a very advanced degree. There were neither tubercles, hepatization, nor adhesion in this or in the other lung.

The heart was greatly hypertrophied, and of a very flabby texture; the blood in its right cavities was exceedingly thin and serous; and the inner surface of all its cavities, as well as that of the large bloodvessels, was stained with a deep red colour. The parietes of the right ventricle were almost entirely converted into a fatty matter.

Remarks. The preceding case (whose details we have much abridged) illustrates very well the extreme uncertainty of diagnosis in some cases. Here there was not only an extensive disorganization of the most vital organs, but a most depraved and corrupted state of the very stream of life, the blood, and yet there were no very alarming symptoms:—the worst were the dyspnoea and looseness of the bowels. The pulse retained its power, and the mind all its clearness to the last!

Case 2. The patient had, for a number of years, been subject to cough with expectoration, but with scarcely any difficulty of breathing. He had led a very dissipated debauched life, and still exhibited some traces of syphilitic taint.

Eight days before Dr. Rambold saw him, he had been seized with shivering, dyspnoea, and a very troublesome cough. The features had assumed a pale livid aspect. He did not however complain of any pain in the chest; but there was a sharp uneasiness under the false ribs on either side. The pulse was small, contracted, and quickened; the respiratory murmur was obscure, irregular and here and there puerile: ægophony was audible over the posterior and middle part of the thorax.

The case was supposed to be one of pleuritic effusion, and of partial pul-

monary exudation. As there were no inflammatory or typhoid symptoms, Dr. R. treated the case with a mixture of tartrate of potash, muriate of ammonia and tartrate of antimony—a compound which our author highly recommends in such cases.

During the course of the night, the patient rose several times to go to stool; and in one of these efforts, he suddenly and most unexpectedly expired.

Dissection. The left lung was found adhering firmly to the costal pleura. On breaking the adhesions, the pulmonary parenchyma was slightly torn; and from this point there flowed a quantity of thick, viscid, black and fætid blood. On making an incision there, an excavation, of the size of an egg, was discovered. Into this, several of the bronchi opened.

The greater part of the right lung was hepatized and quite impermeable to air. On cutting into it, there flowed out a mucus-looking fluid, viscid, very fætid, and of a brownish colour—similar to what the author has seen in other cases of gangrene of the lungs. In the substance of this (the right) lung, there were several spots or patches, of a greenish-black hue, and distinctly gangrenous.

The heart was very small and flabby, and contained some thin dissolved blood.

General Remarks. All the cases of pulmonary gangrene may be attributed to one of two causes, either acute inflammation, or a dissolved unhealthy state of the blood—the result very frequently of a dissipated debauched life. M. Rambold is of opinion that most of the cases occur in the course of typhoid diseases. Laennec too seems inclined to the same view; as he considered gangrene of the lung rather as idiopathic, like anthrax or hospital gangrene, than as the effect of a previous active inflammatory action. It has however been distinctly found that this morbid change does occasionally succeed to inflammation of the organ; although, at other times, it seems to take place quite independently of it. Andral has given some examples of the first of these

forms in his Clinical Medicine. The colour of the gangenous part is a greenish-brown, or a dark reddish-black; and its consistence is usually soft and pultaceous. The putrid odour however is perhaps the least uncertain mark of its existence.

M. Chomel has described a gangrenous condition of the lung, which he has found occasionally in the bodies of those, who have died from the effects of exposure to the effluvia from cess-pools and sewers. The lung was black or greenish, full of a sanious and very fetid fluid, and softened and partially deliquescent.—*Medicinische Annalen*.

QUININE IN ENLARGEMENTS OF THE SPLEEN.

There was lately, in the service of M. Andral, at La Charité, a case which illustrated the efficacy of quinine in enlargements of the spleen.

The patient was a shoe-maker, who was in a poor sickly state, in consequence of repeated attacks of ague. The spleen had become enormously engorged; and it was chiefly with the view of obtaining relief from the distress which this occasioned, that this man had gone into the hospital five months ago.

M. Andral had given a very fair trial to the sulphate of quinine in large doses for a length of time—from 12 to 30 grains daily. But no benefit had resulted from this practice.

Subsequently the splenic region was repeatedly blistered; but with no better effects. Symptoms of ascites have come on, and the strength of the patient has become more and more reduced.

The inutility of the quinine in the present case ought not however to prejudice us too much against its use in similar cases. We have seen several examples in which it proved of decided efficacy in the practice of M. Chomel at the Hôtel Dieu. In all, the disease of the spleen was the result of intermittent fever. The quinine must be administered in large doses—10 or 12 grains daily—for a considerable length of time.—*Bulletin General*.

No mention is made of any of the

preparations of iodine having been tried in the preceding cases.

We have found the hydriodate of potass, in combination with quinine, decidedly useful in several instances of enlarged spleen.

ON THE USE OF THE SOLID NITRATE OF SILVER IN GONORRHEAL AND OTHER DISCHARGES IN FEMALES.

It appears from the statements of M. Ratier, in a late number of the *Lancette Française*, that M. Ricord, the eminent surgeon of the Hôpital des Veneriens at Paris, was the first who employed the nitrate of silver, in the solid state, as an application in these diseases.

Since the announcement of this practice some years ago, in the pages of the *Bulletin de Therapeutique*, numerous medical men in other countries as well as in France, have confirmed the results of M. Ricord's experience. In Britain Drs. Balbirnie and Hannay have published memoirs on the subject, and recommended the practice in very high terms. The statements of the latter gentleman however seem to us to be too indiscriminate and unguarded; for although the gonorrhœal and other discharges from the vagina in the female have been very remarkably benefited in our experience by the treatment alluded to, it is to be remembered that M. Ricord does not recommend its adoption, or at least does not promise much benefit from it, in all cases without exception. The differences in the character and severity of the complaint, in its duration, and in the idiosyncrasy and constitution of patients, forbid the scientific man from too general and too confident expectations in the cure of any disease.

We have another fault to object to Dr. Hannay: and this is that he has not adopted the use of the improved *porte-caustique*, recommended by M. Ricord, and trusts to the rude and clumsy expedient of a piece of the caustic inserted in a quill.

He in deed tells us that even if the caustic should slip out and remain in the vagina, we need have no apprehension of any inconvenience; but such an

assurance is not likely to satisfy any cautious surgeon. The use of the *speculum vaginæ* is necessary to permit the caustic being safely and effectually conveyed to the os and cervix uteri. As the seat of the discharge may be either the neck of the womb, or merely the mucous membrane of the vagina, the mode of applying the caustic will vary to a certain extent in different examples. When the former is the case, if the interior orifice be sufficiently patent, the caustic should be introduced fairly with it, and the inner surface of the neck of the organ should be freely rubbed with it.

In withdrawing the instrument, the whole extent of the vaginal mucous surface also should be similarly treated.

When the uterine orifice is too narrow and confined to allow the introduction of the solid caustic, we should then use injection of the nitrate.

In such cases, where the morbid discharge proceeds from the vagina only, it is unnecessary to apply the caustic to the os or cervix of the uterus.

The treatment by the application of the solid nitrate of silver has been found of great benefit not only in old gonorrhœal and leucorrhœal discharge, but also in recent or acute gonorrhœa, before the inflammatory symptoms are subdued.

The nitrate, locally applied, is a most potent *antiphlogistic* remedy. We have witnessed numerous cases of acute gonorrhœa in the female cured by two or three applications of the solid nitrate to the mucous surface of the vagina: the burning uneasiness and pain induced usually cease after the first application. When the discharge has nearly ceased, M. Ricord recommends that a plug of dry charpie should be introduced and retained in the vagina; as he is of opinion that the mucous membrane recovers its healthy condition more quickly when its opposite surfaces are kept apart from each other: just in the same manner as the discharge in *balanitis* is so much diminished by putting a strip of dry lint around the glans penis.

However useful the treatment of Gonorrhœa, &c., by the application of the nitrate of silver has proved, M.

Ricord is far from recommending its adoption, to the exclusion of other methods. The use of simple cooling injections, and of purgatives and low diet will suffice to cure many cases of the disease when recent; and the more chronic forms are often very effectually relieved by astringent washes, and by the exhibition of steel and other tonics internally. Perhaps, no medicine is, on the whole, more efficacious in improving the general health and in thus correcting the local disease in old leucorrhœal discharges than *steel*, in some form or another. Warm clothing too will often contribute to remove this troublesome class of complaints.

In reference to this point, M. Ricord says: 'how often have we seen most obstinate vaginal discharge quickly disappear, as soon as the use of warm stockings and flannel drawers had protected the feet and limbs from cold and moisture.'

In conclusion, we are informed that M. Ricord gives a decided preference to the application of the solid nitrate of silver to the mucous surface of the vagina (and also of the os tincæ in old obstinate cases) over the use of injections of this metallic salt. All that is necessary in most cases is simply to pass the caustic rapidly along the surface.

It has been observed that the slight irritation, thus induced, very often causes a premature coming on of the catamenia.—*Gazette des Hôpitaux*.

M. RAYER ON DISEASES OF THE KIDNEYS.

This distinguished physician of La Charité has for some years past devoted much of his attention to the pathology of the Urino-poietic organs. In the course of last year he published the results of his enquiries in his "*Traité des Maladies des Reins, étudiées en elles-mêmes, et dans leurs rapports avec les maladies des uretères, de la vessie, de la prostate, et de l'urethre*."

The high importance of examining the chemical condition of the urine in

many cases, especially in all those whose nature and symptoms are obscure, has been recognized of late by all practical physicians. In the present day, no one ever omits to investigate the exact state of the thoracic organs, the heart as well as the respiratory organs, by means of auscultation; and the great value of the signs afforded by this mode of enquiry is too obvious to require any comments of ours at present.

The *seemingly astonishing increase* of diseases of the heart of late years is altogether attributable to the improved means of exploration now in use, and to the consequent greater accuracy of diagnosis.

It is unnecessary to say how much we owe to the labours of Laennec on this score.

No less important is the examination of the urine in the ætiological history of many diseases.

The important discovery of Dr. Bright that an albuminous state of this secretion is very frequently associated with and symptomatic of, structural disease of the kidneys, has been one of the main causes of the attention paid, of recent years, to this subject. Some form of dropsical effusion, more especially anasarca, is a common accompaniment of this state of the urine; but it is not necessarily, or inevitably, so.

The urine may be for a length of time charged with albumen, and yet scarcely any dropsical effusion may be present; and again, this effusion, although it has taken place, may be dispersed, and yet the urine may retain its diseased characters.

It is necessary, however, to observe that the urine does occasionally exhibit traces of the presence of albumen, when the kidneys are not at all affected. Such may be the case in certain inflammatory, or perhaps rather in the sequelæ of certain inflammatory disorders, such as scarlatina, measles, &c.

But under such circumstances, the symptom does not continue long, the albumen is usually in small quantities, and there is no uneasiness or pain in either of the lumbar regions.

On the other hand, whenever the al-

buminous condition of the urine (*albuminuria*) continues for a length of time and is accompanied with lumbar uneasiness, and with partial dropsy, there are strong grounds of suspicion that the kidneys are more or less affected with that disease, to which M. Rayer has given the name of *Nephritis Albuminosa*.

The following is the process recommended by M. Desir in his thesis, (de la presence de l'albumine, dans Dec. 1835), to detect the presence of albumen in the urine.

After filtering it, if it be troubled or thick, and adding a small portion of acid, if it be alkaline, it is to be exposed to heat, either in a tube over the flame of a lamp, or in a open vessel on a sand or water bath.

If nitric acid be employed, it should be added drop by drop.

By employing both methods, we shall succeed in detecting the smallest traces of albumen.

It is to be remembered that albuminous urine, if this be alkaline, will not coagulate by heat. If the albumen is in minute quantity, the urine becomes somewhat opaque; but the coagulation is instantaneous, whenever an acid is added. On the contrary, we occasionally meet with alkaline urine, which exhibits on the application of heat, flocculi somewhat similar to those of albumen, but becomes clear again when an acid is added to it.

M. Rayer has investigated, with great minuteness, those morbid changes of the kidneys, in which the urine is found charged with albumen, and has represented them most faithfully and beautifully in the atlas of engravings accompanying his work.

He has come to the conclusion that all these changes are the products of chronic inflammatory action; and, upon this ground, he has designated them all under the general appellation of *Nephritis Albuminosa*.

M. Rayer has described, with great accuracy, the incipient change in the structure of the kidneys. He says, that in the first or early stage of the disease, these organs are enlarged in size—their weight being increased from 4 or 5 oz.

(the average weight of a healthy kidney) to 8 or even 12 oz. Their consistence is firm without being hard; their colour is more or less deeply red, and often exhibits the appearance of being dotted with spots of a deeper hue than the rest of their surface. On cutting through a kidney in this state, we find that the increase in bulk arises from the tumefaction and congestion of the cortical substance.

This tissue exhibits a number of minute red points, similar to those observed on the surface, and corresponding for the most part, to the highly vascular glandules of Malpighi.

If to these considerations we add that, during life, the lumbar regions are always more or less tender on pressure, and that a regulated antiphlogistic regimen is of decided utility at this, the early, period of the disease, and that blood drawn usually exhibits a more or less decided buffy coat on its surface, we cannot surely hesitate to regard the early morbid change to be one that is strictly inflammatory.

The *second* stage of the disease is indicated by the following pathological condition. The volume and weight are still considerably increased; but the special character of this period is the admixture of pale and of congested spots (anemies et hyperemies), which gives a marbled aspect to the surface of the kidney. The tumefied cortical substance exhibits, on incision, a pale, yellowish, spotted appearance, while the inner or tubular substance is of a reddish brown colour.

In the *third* stage, the cortical substance presents a uniformly pale colour, sometimes of a yellowish rosy white, or of a hue still more pale, and similar to that of eel's flesh.

The partial vascular engorgement has given way to a more decided *anemia*; but the organ still remains tumefied, and exhibits the vestiges of an inflammation, where resolution has made no progress.

In the more advanced periods of this stage, we observe what has been called the granulated state of the kidneys.

The diseased organs are still more bulky and weighty than in health; their

external surface is sprinkled over with minute dots of a milky-white or yellowish colour; but there is no prominence or unevenness to be felt by the finger. These small milky spots are designated by Dr. Bright *granulations*. Sometimes they are confined chiefly to the outer surface of the organ, while at other times they occupy the entire thickness of the cortical substance.

If the kidney be sliced across from its convex to its concave edge, the cortical substance—which is still swollen and more bulky than in health, especially in the prolongations between the cones—exhibits, as in the former stages of the disease, a generally *anæmic* and yellowish aspect, which contrasts very strikingly with the deep red colour of the tubular or inner portion.

Now these changes are all the results of inflammatory actions. That such has existed is indicated by the increase of bulk and weight of the viscus, and by the gradual transition from a state of high sanguineous congestion to that of general *anæmia* and yellowish *degeneration*.

Although the kidneys are, in most cases, augmented in size in the disease, which we have been describing above, it is to be remembered that in certain instances they are actually smaller than in health.

When this is the case, their structure is usually firm and hard, and their surface uneven and irregular. There may perhaps be no white milky spot to be seen on the outside; but, on making an incision through the affected kidney, we generally perceive a certain number of them imbedded in the cortical substance.

From all these remarks it appears that in *Nephritis Albuminosa* it is the cortical substance of the kidneys, which is primarily and most seriously diseased. It is in it, that the vascular engorgement takes place, and that the granulations of Bright are formed. We may therefore say that the *Nephritis Albuminosa* is a *Nephritis* of the cortical substance.

With respect to the special characters of this form of *Nephritis*,—independently of its anatomical and pathological phenomena—they may be stated

to be, 1st, the elimination and discharge from the system of albumen dissolved in the urine, and, 2ndly, the entire absence of any tendency to suppuration in the affected tissue—such as we observe in other forms of the disease; for example in the *Nephritis calculosa*, and the *Nephritis*, which not unfrequently is present in typhus and yellow-fever, &c. The discharge from the system of albumen by the urine must, in course of time, exert injurious consequences on the general health. The serum of the blood loses part of its specific gravity, as M. Rayer has discovered by examining the blood drawn from his patients. There is a marked tendency, in various parts of the body, to take on a chronic inflammatory action—for example the brain, pleuræ, and the abdominal viscera,—and the disposition to dropsical effusion is well known to every physician.

Our forefathers ascribed high value to the state of the urine as a means of *prognosis*; drawing, from its varying characters, conclusions as to the coction of the humours, the approach of crises or important changes, the influence of critical days, the gravity of the disorder, and the chances of recovery. In the present day, we study the urine as a means rather of *diagnosis*, than of *prognosis*; and, to arrive at accuracy of the former, we examine the secretion in its relations of acidity, alkalinity, and whether it contains pus, or albumen, or sugar, or spermatic animalculæ, &c.

In this way only can we hope to form accurate conclusions, regarding the true nature of a number of very obscure and puzzling cases.

In concluding this brief sketch of M. Rayer's researches, we cannot do better than highly recommend the perusal of the original works to the careful perusal of our practical readers.—*L'Experience*.

has recently published an account of his investigations of the morbid changes of these glands, the uses and functions of which have hitherto eluded the enquiries of all physiologists.

It appears that they are frequently the seat of an internal hæmorrhage, and of subsequent degeneration of their tissue.

We shall briefly report the particulars of some of the cases, which he has published.

CASE 1. Tumor in the Right Flank, produced by an enormous Apoplexy of the Capsula Infra-renal.

A woman, seventy-five years of age, was admitted in April 1836, into La Charité hospital, and died there in the course of the following month. Five years before, she had a severe attack of excruciating pain in the right renal region, extending thence towards the womb: micturition was frequently attended with difficulty and strangury. This attack lasted for nearly two months, and then subsided. Although she continued to experience occasionally a certain degree of uneasiness in the same spot, her health remained tolerably good, till within three months of her decease; when an attack, similar to the first one, supervened. The pain in the right loin was excruciating and extended downwards in the line of the thigh; micturition was painful and difficult; and the patient was much distressed with nausea and vomiting. Subsequently the affected limb became œdematous; and a tumor was discoverable in the right lumbar region: it was partly hard, and partly soft and fluctuating. The diagnosis was certainly obscure and difficult: the tumor, it was supposed, might be hydatidic or cancerous, or proceeding from dropsy of the ovary.

On dissection, the whole extent of the right iliac fossa was occupied with an irregular-shaped tumor, situated between the right lobe of the liver and the edge of the os innominatum: it was nearly four pounds in weight; elastic and fluctuating on pressure, it discharged, when cut open, nearly two pounds of dark blood. The parietes of the sack were of a dark brown colour,

ILLUSTRATIONS OF THE PATHOLOGY
OF THE CAPSULÆ SUPRA-RENALES.
By M. RAYER.

M. Rayer, whose researches on the Diseases of the Kidneys we have just noticed

and of a soft fleshy consistence. Upon a minute examination of its connexions, there could be no doubt that this large mass was formed by the supra-renal gland. What its genuine nature was, it was not easy to determine. We may style it an immense *apoplectic sac*, or perhaps rather "*une collection d'apoplexies multiples dans une meme poche.*" The contained blood was partly liquid, and partly consisted of coagula, more or less organised. The right kidney was little, if at all, altered in any respect; and the left one, as well as its supra-renal gland, was perfectly healthy.

CASE 2. Apoplexy of both Supra-renal Glands—Partial Disease of the Left Kidney and of the Bladder.

A woman, 68 years of age, was admitted into La Charité in the beginning of the year 1836. She had been confined to bed for a fortnight with a troublesome bronchitic affection, which proved fatal. It would seem that no disease of the urinary viscera had been suspected.

Dissection. It is unnecessary to detail the pathological appearances found in the chest. On examining the kidneys, the cellular texture of both supra-renal glands was observed to be more or less infiltrated with dark blood; here and there, there was a distinct "*foyer apoplectique.*" The structure of the kidneys themselves appeared to be quite healthy.

Bonetus, in his *Sepulchretum*, has detailed the particulars of a case, in which the left supra-renal gland had become an immense sac, filled with bloody semi-purulent matter; and Lieutaud alludes to two similar examples.

M. Rayer informs us that he has several times discovered a sanguinolent infiltration of the supra-renal tissue in new-born infants, who have died soon after birth. Twice he has met with the capsule transformed into a genuine sac or pouch, as large as a pigeon's egg, and full of blood.

Before dismissing the subject of *apoplexy of the supra-renal gland*, it may be useful to allude to the normal structure of the gland itself. Some anatomists have described it as hollow, or

containing a cavity, and among those is Bichat, who uses these words:—"Chaque capsule surrenale n'est vraiment qu'une petite poche á parois parenchymateuses."

Others, on the other hand, such as Meckel, &c., assert that, in the normal state there is no cavity, and that, whenever such is found on dissection, it is the result "*de la decomposition spontanée de la substance interne des capsules, qui a très-peu de consistance, ou de la destruction de cette meme substance par les manipulations, auxquelles on soumet l'organe en l'examinant.*"

To this opinion M. Rayer appears to incline, as he tell us that whenever he has met with any cavity in a supra-renal gland, it was always filled either with blood, or with a yellowish albuminous fluid, and that the parietes of the cavity presented such an appearance as to suggest to him that it was the result of an apoplectic effusion. He therefore thinks that the cavity, which we occasionally meet in the supra-renal gland, is not normal, but is the result of a rupture of its tissue—in most cases probably from hæmorrhage. The blood-vessels of this gland are exceedingly lax, and, therefore we may suppose, readily lacerable.

The other lesions, to which the supra-renal glands are subject, are few, as far as pathology instructs us—apoplexy or hæmorrhage being much more common than any other.

M. Rayer has seen one or two examples, in the fœtus, of a small abscess being formed in their structure. He has also met with tubercles in cases where the corresponding kidney was similarly diseased; with deposition of cancerous or cerebriiform matter; and other observers have discovered a few cases of partial ossification, or conversion into a chalky substance. Meckel alludes to two instances, where he found the supra-renal glands much hypertrophied in individuals, who had been greatly addicted to venereal pleasures; and, of late years, the school of philosophical anatomists has directed our attention to the frequency of atrophy or imperfect development of their structure in acephalous infants. Müller,

however, questions the accuracy of this statement; and, with Meckel, is rather inclined to believe that their development is in some manner connected with, and relative to, that of the generative organs.

(Such of our readers as wish to make themselves acquainted with the literary history of the supra-renal glands will do well to consult M. Rayer's memoir, which they will find in last October number of *l'Experience, ou Journal de Medecine et de Chirurgie*.

CASES OF GLANDERS IN THE HUMAN SUBJECT.

Corporal Rudorff, 25 years of age, when admitted on the 10th of July into the military hospital, had for about five weeks previously been suffering from intermittent fever—his health, even before that period, having not been good for a length of time.

For some days before his admission, he had experienced sharp pains in the joints of the lower limbs, accompanied with a feeling of weight and heaviness in those parts, and with severe headache. When he came into the hospital these symptoms continued, the face was flushed, the skin was hot and dry, pulse hard and rapid, and there was also great thirst.

The disorder was regarded as acute rheumatism, or as inflammatory fever. The patient was ordered to be bled, purged, and kept on a cooling diet.

The venesection procured great relief; the blood being very buffy.

On the 12th, numerous furuncular tumors appeared on both legs; they did not present any outward marks of inflammation, their surface being of a pale blue colour: they were very tender on pressure, and were attended with a burning stinging pain. They felt as if filled with a fluid matter, and as if this extended deep among the muscles.

The pyrexia and rheumatismal pains returned; and further depletion was therefore necessary. The fever began to assume more and more of a nervous type, being attended with much deli-

rium and stupor, and the tongue covered with a brown crust. Several new tumors made their appearance on the thighs, arms, and neck. Some of these were hard and exquisitely tender, while others were less sensitive, and felt soft and fluctuating. The symptoms became progressively more and more unfavourable, the patient lying constantly in a state either of delirium or of coma, and exhibiting all the worst features of typhus gravior. He died on the 18th—being the eighth day after his admission.

Dissection. On opening many of the subcutaneous tumors, they were found to contain, some a thick yellow pus, others a dark-coloured fluid like chocolate. This matter was also infiltrated into the substance of the adjacent muscles, and at some points reached even to the subjacent bone. The blood in the veins was remarkably watery, *decoloré*, and in the right auricle seemed as if it was mixed with a viscid fluid. The right crural vein was coated here and there, on its internal surface, with a puriform exsudation.

Remarks. The preceding case exhibited all the symptoms of *glanders*, such as it has been observed in the human subject. The patient had had the charge of several glandered horses, before the commencement of his illness.

Case 2. A pupil of the Military Veterinary School had been attending some glandered horses, and had frequently handled them, when there was a small wound on one of his fingers. He began to experience a pain in this hand, and to become generally feverish. The pain speedily extended to other parts of the body, more especially the joints, and the affection resembled altogether an attack of rheumatism. When admitted into the hospital on the 3rd of February, several of the joints both of the upper and lower extremities exhibited a slight tumefaction, and the system was labouring under general pyrexia. He was bled, purged, &c. with temporary relief to the symptoms.

On the 12th, several circumscribed puffy tumors were felt under the skin

of the arms, legs, and head, although no outward redness was visible.

He was again bled and put on a course of calomel and opium.

A diarrhœa, accompanied with extreme prostration, supervened; and symptoms of cerebral oppression followed: in short, all the usual characters of aggravated typhus were present.

Some of the furuncular tumors were exquisitely painful, especially one as large as a nut over the left parietal bone. The face was covered with numerous miliary vesicles.

The patient died on the 4th of March.

Dissection. All the encephaloid vessels were gorged with blood, and there was a sanguinolent effusion in the cavities of the brain and spinal-marrow. A similar effusion was present in the pleural and pericardial cavities.

Numerous tumors, filled with a dark sanious fluid, were discovered in the substance of the muscles of the upper extremities, and also in one or two muscles of the legs: the surrounding muscular tissue being more or less softened and disorganized.—*Medicinische Zeitung, Mai 1837.*

ON THE CONTAGION OF THE VARIOLA, DURING 1836, IN HAISCHBERG IN GERMANY.

Dr. Schaeffer has communicated a long article on the above subject, closing it with the following conclusions.

1. Vaccination, as a preservative against the small-pox, has appeared to be in a direct relation with the number of scars visible on the arms of the individuals. Thus in 43 vaccinated persons, who have caught the small-pox, there were, in all, only 130 scars; whereas in other 38 persons, who have escaped, although they had been repeatedly exposed to infection, there were 211 scars counted.

2. Vaccination is far from having the same preservative influence on all persons. In some a single cicatrix seems to prove a sufficient security against the small-pox; while others, whose arms have exhibited half-a-dozen of genuine

scars, have been seized with the disease.

3. It is very difficult, if not quite impossible, to pronounce any characteristic signs of true genuine cicatrices.

Of 43 vaccinated persons, who have taken the small-pox, 14 exhibited cicatrices perfectly normal; in 25 they were more or less abnormal, or irregular; in 4 none at all could be discovered.

On the other hand out of 38 vaccinated persons, who had resisted the infection, 34 presented normal cicatrices; in 3 they were more or less indistinct, and in the remaining one no traces were visible.

4 The majority of vaccinated persons, who have been attacked with small-pox, have been from 20 to 30 years of age. The severity of the disease has been almost always in a direct ratio with the length of the interval elapsed since vaccination had been performed. In general the disease was more severe in the more aged than in the youthful. In one case the small-pox declared itself in an adult immediately after a normal vaccination; and in another case it showed itself, in a slight degree, on the eighth day after vaccination—the progress of which however was not interrupted.

5. A great number of persons have been submitted to re-vaccination; and of these not one has been attacked with small-pox. Moreover all those also, in whom re-vaccination has not produced any effect, have escaped, although many of them have been much exposed to the contagion—a strong argument in favour of the opinion, that when re-vaccination does not take, the liability to catch the small-pox is extinguished.—*Rust's Magazin für die ges: Heilkunde.*

THERAPEUTIC INFLUENCE OF COMPRESSION OF THE LARGE BLOOD-VESSELS IN NEURALGIA, &c.

M. Dezeimeris, the author of the memoir from which the following observations are drawn, appears to be much more deeply read in British medical literature than any of his countrymen,

with the exception of two or three, such as MM. Rayer, Velpeau, &c.

He points to the late Dr. Parry of Bath, as being the first who ascertained and announced the curative effects of compression of the large arteries; and more especially of compression of the carotid arteries in various cephalic diseases, as severe headache, epilepsy, convulsions, &c.

M. Dezeimeris's observations apply chiefly to the efficacy of such compression in neuralgic affections of the face and head. The following two cases appear to us to be very interesting

Case 1.—Madame C., 34 years of age, and of a rather feeble constitution, determined, after the loss of her parents in 1814, to retire to a convent. There she spent five years in fasting and various penances; the effect of which was to impair her health very greatly.

It is now about six years ago since she experienced the first attack of neuralgia, which came on after deep and protracted chagrin. The paroxysm of pain was quotidian, returning almost regularly between three and five o'clock in the morning. The use of the sulphate of quinine effectually cured it.

Three years subsequently, and again after severe mental distress, Madame C. was seized with gastralgia, accompanied with bulimia. These symptoms yielded to the use of pills composed of opium, magnesia and subnitrate of bismuth,

In the Spring of 1836 she had a return of facial neuralgia, which was not confined to one spot, being sometimes supra-orbital, and at other times infra-orbital or maxillary, or seated in the ear. It very rarely exhibited any regularly intermittent type; and hence resisted the quinine. Various narcotic remedies, employed endermically as well as internally, were tried, but with only temporary and partial success; and the disease did not fairly cease, until a suppurative eruption made its appearance on the ear.

The last attack of the disease was in the Autumn of the same year. This time it occupied almost the whole right side of the face, and although not so severe as on the former occasions, it

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resisted every means that where employed.

The physician in attendance having accidentally spoken to M. Dezeimeris respecting this case, he, (the latter) suggested to him to try the effects of compression of the carotids. At this time the pains were so excruciating as to force the patient to scream out, and the integuments of the affected part were red, swollen, and shining. Upon firm pressure being made over the right carotid artery for two or three minutes, the facial congestion rapidly subsided, the pain became almost entirely assuaged, and the patient felt a soothing drowsiness creep over her.

When the compression was removed, the pain returned, but in a less aggravated degree; and again it was checked by re-applying the finger. For the following three or four days the sufferings of the patient were much less than they had been for a length of time, recurring at intervals only and with diminished severity. At length an eruption broke out in the right side of the face; and since then there has been no renewal of the pain.

Case 2nd was communicated to the author by M. Rayer.

A young female, of a highly nervous temperament, had been subject, for several years, to attacks of excruciating neuralgic pain in the right side of the face.

During the paroxysms, the suffering was so intense that she was scarcely conscious what she was about. All classes of medicines had been tried, but without any decided benefit.

M. Rayer, at the suggestion of M. Dezeimeris, tried compression of the corresponding carotid artery. After being continued for about twenty minutes, the pain was very greatly relieved. On the threatened approach of the next attack—for the paroxysm was usually preceded by a feeling of stiffness and numbness in the left temple—compression with the fingers over the left carotid, until the circulation through the corresponding temporal artery was sensibly diminished, was at once resorted to; and with the effect of pre-

venting the accession of the fit. Since that period the return of the fits has not indeed been delayed or prevented; but, adds M. Rayer, the pain, which was formerly excruciating, has become so supportable that I may say that the paroxysm *miscarries* each time.

M. Dezeimeris then alludes to the curative effects of compression of the carotid arteries in some cases of convulsions and epilepsy; and narrates, without however approving of the practice, the three cases in which Mr. Preston tied the common carotid artery to relieve certain cephalic affections. — (*Trans. of Med. and Phys. Society of Calcutta.*)

He mentions also some of the observations of Dr. Cooke (*History and Treatment of Epilepsy*, London, 1823), to prove the benefit of compression of the carotids in many cases of this disease. We shall close these remarks with the short notice of a case of *Coma Vigil*, in which M. Rayer employed compression with advantage.

This case occurred in a young woman who for many years had suffered from various forms of hysterical disease. Latterly she had become affected with a species of coma, which returned every day, and which usually lasted for several hours.

If she was aroused from this state, she became vehemently excited and convulsed. At the suggestion of M. Dezeimeris, M. Rayer tried the effect of compressing the carotids during the attack of coma. It was not continued for more than two or three minutes, before all symptoms of stupor ceased. The same practice was adopted several times afterwards, and always with the same effects. — *L' Experience.*

the use of it in some case of *paraplegia*; and, according to their reports, decided benefit has been thus obtained. It seems to have no influence in *hemiplegia*; the seat of that more unfavourable species of palsy being either in the brain itself, or in the cervical portion of the medulla.

The Ergot has been employed with marked benefit in that form of *paraplegia*, to which infants during dentition and young children are subject.

Adults too have derived equal benefit from its use. Thus M. Ducros of Marseilles mentions the case of a sailor who, by falling from the rigging of his ship, lost the use of his lower limbs completely. Moxas, and other means, had been unsuccessfully tried by Professor Delpuch; and nothing seemed to do any good but the Ergot of Rye, under the administration of which he quite recovered.

The usual dose, which it is proper to commence with, is six or seven grains: this should be raised gradually to thirty or forty grains, or until the patient begins to feel prickings, and a sense of formication in the limbs, somewhat similar to what are produced by the use of the Nux Vomica.

An excellent adjuvant of its remedial virtues is the occasional exhibition of a turpentine enema.

Whenever we administer the Ergot of Rye for a length of time, it is necessary to guard against the *septic* influence of the agent on the system, by recommending the use of a generous animal diet, &c. &c. M. Ducros mentions a case in which sloughing of the heel supervened: by proper means, however, both the gangrene and the paralysis were cured. — *La Lancette Francaise.*

UTILITY OF ERGOT OF RYE IN PARALYTIC AFFECTIONS.

It is reasonable to presume that the *modus operandi* of this remedy in tardy parturition, Amenorrhœa, &c., is by its stimulant influence on the lower extremity of the spinal-marrow. Hence some physicians have been led to try

RESEARCHES ON THE CAUSES OF ABORTION, BY MADAME BOIVIN.

Madame Boivin—the distinguished *sage-femme* of Paris, Doctor of Medicine, and chief inspectress of the Royal Maison de Santé, &c. has recently published some excellent remarks on “One of the most frequent and least known

cause of Abortion." Her researches have been evidently conducted with great skill and fairness, alike in the examination of the symptoms during life, and of the morbid appearances found on dissection. We cannot do better than report two or three of her illustrative cases, for the purpose of pointing out the nature of the *cause*, which in her opinion gives rise so frequently to miscarriages.

"Madame Kall, twenty-seven years of age, mother of three children, was seized with pleuritic symptoms after exposure to cold. Miscarriage came on: the fœtus was about five months old. She died on the 10th day after the commencement of her illness.

Dissection. (We shall confine our remarks to the state of the uterus and its appendages). The broad ligaments, the Eustachian tubes, and the ovaries, were grouped or matted together, and adhered to the posterior surface of the uterus. The adhesion was so close, as to require the use of the scalpel to sever it. In the conglomerated mass numerous small tubercles, varying in size from a millet-seed to a pea, were discovered.

It is evident that, *such being the condition of the uterine appendages, the womb could not expand and develop itself, but with extreme difficulty.* Abortion must therefore have come on, although no affection of the chest had supervened. The uterine ligaments being morbidly affected could not readily expand and yield to the gradually-increasing distention of the womb: their resistance became the cause of excitation, and a miscarriage was the consequence."

From these short details our readers will be able to understand the reasonings of Madame Boivin, as respect *one of the most frequent and least known causes of abortion.* She adduces many other examples to prove the existence of some morbid change of the uterine appendages in cases of miscarriage. This change, whatever may be its character or appearance on dissection, seems to be almost always the result of some slow unhealthy inflammation. In some cases, the agglutination of the

uterine appendages is found associated with the formation of purulent deposits between the uterus and rectum. Such cases usually occur in scrofulous subjects.

It may now be asked, is there any method of ascertaining, or even of suspecting, the existence of a morbid change in the uterine appendages during life? and, if so, are there any remedial means to remove it?

We must confess that the diagnosis of such a disease is always most difficult and uncertain. The following symptoms may, however, be mentioned as, to a certain degree, indicative of its presence. Menstruation is usually attended with severe pain and suffering; there is often a continual bearing-down and sense of dragging as well during menstruation as during micturition; the evacuation of the bowels too occasions the same feeling; there is often an acute or a dull oppressive pain in one or both groins, extending upwards to the loins and downwards to the limbs and there is always more or less of leucorrhœal discharge.*

With respect to the treatment of such cases, Madame Boivin informs us that the local use of mercury—the inunc-

* There is one very important symptom to be ascertained by manual examination, which especially merits the attention of the physician—we allude to the frequent partial displacement of the neck and orifice of the uterus, and to the *diminution of its natural mobility*, when pressure is made on it by the finger.

The following remarks by Madame Boivin appear to us highly interesting: "As in the morbid affection of the uterine appendages it is rare that the womb retains its normal degree of mobility, it is therefore of great importance in all cases of irregular menstruation, or of obstinate leucorrhœa, to determine if the womb, independently of the healthy condition of its orifice, preserves all the freedom of movement which results from the normal state of its ligaments, and of the ovaries and Eustachian tubes."

tion of the mercurial ointment on the groins, thighs &c.—continued so long as gently to affect the system, will often succeed; not only in restoring the health of the patient but also in removing the tendency to subsequent miscarriages.

Madame Boivin does justice to Dr. Granville of London, in giving him the credit of having suggested this practice in his “Obstetrical Report of the Westminster Dispensary,” published many years ago. Dr. G. adduced several cases, which very satisfactorily proved that the tendency to miscarriages may very often be checked by this *mercurial treatment*, in the way of inunction.

The other remedy recommended by Madame Boivin, is the hydriodate of potash.—*Recherches sur l'Avortement, par Madame Boivin.*

IRREGULARITIES OF THE BOWELS, A FREQUENT CAUSE OF UTERINE AFFECTIONS. PERNICIOUS EFFECT OF A BOARDING-SCHOOL LIFE.

Many, if not most, of the troublesome affections of the uterus and of the rest of the generative organs are attributable *primarily* to derangement of the gastro-intestinal functions. This is especially apt to be the case in young females of a lax, lymphatic and scrofulous constitution: their appetite is usually irregular, and often bizarre, and their bowels are almost always sluggish and constipated. The system of education pursued in the present day unfortunately fosters, if it does not actually occasion, this state of things.

Little or no attention is paid in any boarding-school to the *physical education* of the girls; their occupations are almost all sedentary; their minds are much more exercised than their bodies; and even the very amusements, which are allowed them, are subjected to as strict a discipline as their regular studies. They become poor, feeble, pale creatures; their catamenial discharge is never quite healthy nor regular; and when they become married, they either become the victims of frequent miscar-

riages or, else their offspring is puny and miserable.

When we consider that all the girls of a boarding-house are, without regard to difference of age, or constitution, subjected to the same discipline, made to eat the same food, and altogether drilled in the same manner, how can we be surprised that so many of them, on leaving the establishment, return home with the seeds of much suffering and ill-health, deeply laid and ready to burst out when Nature designs them for the more important functions of their sex.

Of all the evils of a boarding-school life, perhaps none is so essentially pernicious as the neglect—arising from a variety of causes—of a regular action of the bowels. Almost every girl in such establishments suffers more or less from constipation. As they approach the age of puberty, this disposition becomes more confirmed; the abdomen becomes fuller; the large intestines especially acquire greater size; the pelvis is now more capacious—all these physical changes induce a greater tendency to extreme inaction of the bowels and to the consequent accumulation of large quantities of fecal matter in their cavities.

Now no portion of the intestines is so apt to suffer from this influence as the sigmoid flexure of the colon and the rectum. Independently of the injurious effect of alvine accumulations on the general health, the distention of the lower gut must necessarily cause a compression and a consequent congestion of the hæmorrhoidal vessels; the blood is thus obstructed in its free return. Hence the circulation not only in the rectum, but also in the uterus and its appendages, becomes gradually more or less deranged; thus laying the foundation for many of the most obscure and unmanageable affections of the uterine system—such as obstinate leucorrhœa, tendency to miscarriage, &c. &c. Many cases of nymphomania also are attributable to this same cause. The irritation extends from the rectum to the vagina and vulva; and hence, unless proper means are employed to remove the primary evil, all local pal-

liatives to the seat of the distress are delusive and unsatisfactory.

If such be the state of health before marriage, many circumstances, mental as well as corporeal, occur afterwards to aggravate, at least very frequently, the morbid disposition.

What with fatigue of body, disquietude of mind, the excitement from sexual intercourse, &c.—all these causes tend to induce either a feverish irritability, or a languid congestion of the whole system.

As a matter of course, the organs which had been weak and ailing before, suffer most; and thus we may account for the numerous diseases of the uterine system which we meet with in the present day, more especially in large towns.

Mad. Boivin remarks:—"That state, into which the whole organization has fallen in such cases as we have been alluding to, gives rise to irregular and diseased secretions, and to various morbid growths and degenerations of tissue, especially in the mammæ, and in the uterus and its appendages."*

Having thus explained her views respecting the morbid tendencies of the uterine system, our authoress goes on to observe:—

"I do not agree with those who believe that pregnancy, miscarriages, and difficult parturition are the most frequent cause of the diseases of the uterus. I am rather inclined to adopt the reverse of the proposition, and to assert that *certain morbid states*—the etiology of which we have explained above—of the uterus and its appendages, are the most frequent causes of premature and abortive labours."—*Recherches sur l'Avortement, par Madame Boivin.*

* We have had occasion, says Mad. B., to see fine young women, who exhibited all the characters of maidenhood, extremely subject to catamenial irregularities, and each labouring under a scirrhus affection of the mammæ. Three of these patients were operated upon by the Baron Dubois: their respective ages were 22, 25, and 38.

NOTICE OF THE HÔTEL DIEU OF PARIS.

The Hôtel Dieu of Paris is probably the oldest hospital in Europe. It was founded about the year 660, for the refuge and assistance of pilgrims, and the sick and destitute of the metropolis. Its motto was, *medicus et hospes*. At certain seasons it was so crowded that we are told that, at the beginning of last century, there was sometimes upwards of 9000 inmates, of all ages, sexes, and conditions in it, at one time. There were wards for lying-in women, children, venereal patients, and the insane. But, after the revolution, a great improvement in all these arrangements took place. The lunatics were transferred to the Salpêtrière and Charenton Hospitals, and subsequently also to the Bicêtre; the Maison d'Accouchemens and the Maternité received the obstetrical cases, while the children were established in a separate hospital, Hôpital des Enfants Malades; a venereal hospital was set apart for syphilitic cases; the other hospitals of the metropolis, viz. Necker, Cochin, Beaujon, La Charité, La Pitié, St. Antoine, St. Louis, &c. were greatly enlarged and improved and, lastly, a Central Board (Bureau Central) was instituted to superintend the distribution of the various patients.

By these arrangements the crowded state of the Hôtel Dieu was reduced to 1800, 1200, and lastly, to 1000—which last number may be stated to be the average amount of patients in its wards at the present time.

The administrative service of this great hospital consists of a director, a treasurer, and four secretaries.

The medical staff, or "service de santé," consists of ten physicians, three surgeons, one chief clerk, *chef de clinique*, nine physicians' in-door clerks, *élevés internes en médecine*, ten surgeons' in-door clerks, 124 pupils, one apothecary and an assistant, and ten in-door pupils of pharmacy.

The sisters of charity, who act as nurses here, belong to the order of St. Augustin; of these, there are 32 matrons (*meres*), and 12 novices.

The physicians visit their patients

every morning at six o'clock, assisted by their "*internes*," and their "*externes*," and the resident physician visits all the wards each evening. All cases of urgency and danger are attended to by two of the *internes*, who keep watch night and day.

Of all the hospitals in Paris, the Hôtel Dieu is that which is best supplied with water. The author of the paper, from which we draw our remarks, candidly admits however that Paris, when compared with London as to the supply of this necessary of life, is still "*dans l'enfance de l'art*." It is generally supposed that London consumes upwards of 100 times as much water as Paris. The chief supply to the Hôtel Dieu is from the pump of Notre Dame. But it is not possible for us to follow the author through all his minute details of the general economy of this vast establishment. We must therefore refer our readers for further particulars to the number for last November of the—*Annales d'Hygiène*.

WOUND OF THE EAR FROM THE INSERTION OF A KNITTING NEEDLE—DEATH.

A youth, in mere sport, had introduced the end of knitting-needle into the left ear of one of his companions, who, by suddenly moving his head, most unfortunately had caused the instrument to pass deeply in, and to wound the inner apparatus. He uttered a piercing cry, and fell down quite insensible. He was bled and freely purged; his consciousness gradually returned. On the following day however he was delirious, and on the third he became comatose. The nature and extent of the local injury, could not as a matter of course, be ascertained. Convulsive twitches of the face and body supervened; but the patient continued altogether insensible. He died on the evening of the fourth day.

Dissection. The outer vestibule, or cavity of the concha, exhibited no lesion, and the external auditory canal also was perfectly sound. The *membrana tympani* was so much lacerated, that

only a few shreds remained attached to the bony ring. The *tympanum* itself was filled with pus; the *malleus* and *incus* lay loose and separated from their connexions, the ligaments and muscles being destroyed: no trace of the *stapes* could be discovered. The *fenestra ovalis*, situated immediately opposite to the *membrana tympani*, was found open, and the small membrane or ligament, which unites the base of the *stapes* to it, had disappeared. The nerve, which traverses the tympanic cavity was divided across. The inner ear being now carefully examined, the soft parts contained in the vestibule—the three *ampullæ*, and the three soft portions of the acoustic nerve—were found to be blended confusedly together. Among these parts, a fragment of the *stapes* was discovered. The *cochlea* and three semi-circular canals exhibited nothing remarkable, except high injection of their capillary vessels.

On opening the cranium, the dura mater was found to be thickened and highly vascular; the arachnoid exhibited traces of intense inflammation; some sero-purulent matter lay on the surface of the pia mater, and had partially insinuated itself between the convolutions of the brain. The cerebral substance also appeared to have suffered from inflammatory action. A small effusion of blood was discovered on the upper surface of the *petrous bone*.—*La Lancette Française*.

BLISTERS IN UNFAVOURABLE CASES OF ERYSIPELAS OF THE SCALP.

The following case is worthy of notice. A healthy robust man, 31 years of age, was carried to La Charité, in consequence of an accident which he had met with by a quantity of earth and stones rolling down upon him, when engaged in digging a deep pit at the side of the Bicetre. No limb was broken; but he had received severe contusions in various parts of his body. The scalp was lacerated at several points, and the left ear had been quite detached from its connexions. The

poor fellow was labouring under symptoms, which indicated cerebral compression. He was therefore freely bled, and leeches; but without any decided benefit. The scalp had become affected with erysipelatous inflammation, which had extended down over the face and neck; delirium came on; and on the 5th or 6th day he was *à tout extrémité*. The pulse was almost imperceptible, and the tongue was dry and covered with a black crust. It was generally expected that he would die in the course of the day.

In this state of things, M. Velpeau ordered that the whole scalp should be covered with a blister. On the following day, what was the surprize of the pupils at finding the patient perfectly sensible and composed! The pulse had risen in strength and had become regular; and all the other symptoms had improved. *En vérité n'est-ce pas là un miracle?*

Four or five abscesses formed in the substance of the scalp and also in the two eyelids; these were opened and subsequently cicatrised. Ultimately the man quite recovered.—*Bulletin General*.

ON THE TREATMENT OF FRACTURES, BY M. VELPEAU.

The object of the indefatigable surgeon of La Charité is to shew that a patient, after the broken limb has been secured in an "apparatus inamovible," may be permitted to walk about on crutches, with perfect safety.

He premises his remarks by observing that a very popular error still exists, that it is of great consequence that a fractured limb should be *set*, as soon after the occurrence of the accident as possible: and hence it is generally supposed, by unprofessional persons, that the sooner that the displaced ends of the bone are rectified, the more favourable will be the progress of the case. "Unless," says M. Velpeau, "some serious complication exists, it is almost quite indifferent whether the apparatus be applied at the end of a few

minutes or of the first twenty-four hours. Up to this time there is nothing to be dreaded from delay. I wish to insist much on this point, in order to prevent the unnecessary alarm in a family, which is excited on all occasions of a broken bone."

Some surgeons, however, carry this system of delay much too far, when they recommend that a fractured limb be left without any apparatus for the first eight or ten days. This period they pretend to say, is necessary to combat the swelling and inflammatory action of the surrounding soft parts; and, as the agglutinative and consolidative process of incipient ossification does not commence till the second week or so, it is useless, they add, to keep the ends of the bone in exact apposition.

M. Velpeau very properly condemns this line of practice. How can the sharp ends of the bone, he asks, remain in contact with the soft parts without irritating them, and exciting spasm and inflammation? and as for the objection that the compression from the immediate application of splints and bandages is apt to induce gangrenous inflammation, it holds good only of the injudicious, and not of the scientific, employment of the means.

Indeed, ever since the commencement of my practice, I have uniformly acted on the principle of immediately reducing the displaced bones, and of then surrounding the limb with discutient compresses, and with a moderately-compressive bandage, carefully applied from the fingers or toes upwards along the whole extent of the injured limb. These objects being effected, the only other indication was, in my opinion, to maintain the limb in an immoveable, and as easy a position as possible. By following these principles of practice, I (M. Velpeau) have succeeded in curing some most severe and unfavourable cases of fractured limbs, even when the bone had projected through the integuments, and great infiltration had taken place into the soft parts.

M. Velpeau gave a very fair trial to the practice recommended by Baron

Larrey—of wetting the bandages, when first applied, with an agglutinative fluid composed of liq. plumbi, camphorated spirit, and the white of eggs—and was inclined for some time to think very favourably of it. But of late years he has discontinued it, in consequence of the following objections:—

1. When the tumefaction of the limb subsides, a hollow is left between it and the bandage.

2. It is difficult to remove the bandage, in case such removal be expedient.

The latter of these objections is, in a great measure obviated by the proposal of M. Seutin, a distinguished surgeon of Brussels, to employ a mere solution of isinglass or of starch in place of the liquid of Baron Larrey; the former being as firmly agglutinative, and much more readily softened and removeable than the latter.

M. Velpeau approves of the suggestion; and the following is the mode in which he has availed himself of it in the apparatus which he now generally uses in the treatment of fractures.

Having reduced the displaced bone by appropriate extension, he applies a roller from the toes up to the knee: this is to be well wetted with a strong solution of starch; and then it is to be re-applied backwards from the knee down to the toes. The opposite surfaces of the roller become very quickly glued to each other, so that it is not at all necessary to use pins to keep any of the turns together.

It is a good plan to place some wadding along each side of the tendo-achillis, so as to fill up the hollow between the two layers of the bandage. He then applies two or three pasteboard splints, moistened in the starch solution, on each side of the limb, and one to the sole of the foot. These are maintained in strict apposition to the limb by means of another roller, which is also wetted with the liquid, so as to cause it to adhere firmly to the splint. When this has dried, in the course of two or three days, the limb is found to be cased in a solid greave, so to speak, of pasteboard and bandage, and all risk of the displacement of the frac-

tured ends of the bone is effectually prevented. Hence the patient may not only move or turn the limb in bed with perfect safety, but he may even rise and walk about on crutches, whenever the desiccation of the apparatus is complete—and this is usually the case by the third or fourth day.

M. Velpeau assures us that he has treated upwards of sixty cases of fracture, in the manner now described, with most complete success, and with far less trouble, both to surgeon and patient, than with the ordinary apparatus. He alludes also to the great success of M. Seutin in Brussels, who has now for some years trusted entirely, in his extensive surgical practice, to the "methode par compression inamovible," in all cases of fracture of the upper and lower extremities.—*L'Experience, Journal de Medecine et de Chirurgia*.

M. GERDY ON BANDAGES AND OTHER SURGICAL APPARATUS. (Review.)

M. Gerdy, one of the surgeons of the Hôpital St. Louis and the Professor of Surgical Pathology to the Faculty of Medicine at Paris, published in 1826 his *Traité des Bandages et Appareils de Pensence*, with an Atlas of Engravings. The Second Edition, which is quite recently published, contains many additions and improvements.

The first part of the work is occupied with a description of the various sorts of *bandages*, properly so called, and the second makes us acquainted with the numerous and diversified machines and mechanical contrivances for fractures, curvatures, &c. &c.

The present edition will be found to contain a description of all the valuable new apparatuses, which have been recommended within the last ten years.

Thus, he particularly describes the method of treating fractures by M. Mayor of Geneva; the immovable apparatus of Baron Larrey, of M. Seutin and others, for the same purpose; the various kinds of trusses and herniary bandages; certain novel contrivances for spinal deformities, &c. &c.

The historical remarks appended to each chapter will enable the reader to apply, if he wishes, to the original sources of information; and the author has particularly dwelt on many of the surgical apparatuses of the ancients, more especially of Galen and Oribazes.

The descriptions of the different articles, instruments, &c. are perspicuous, without being too minute; and they are always accompanied with practical reflections on the advantages and inconveniences of each.

The Atlas contains seventeen well designed plates—neatly and elegantly engraved.

M. BOUCHERON ON THE HAIR.

(Review.)

The work of our author is entitled *Traité Anatomique, Physiologique, et Pathologique du système Pileux, et en particulier des Cheveux et de la Barbe*, p. 158, Paris, 1837. There is a good deal of amusing information in its pages; and as the subject of the hair is not generally much attended to in physiological works, the curious reader will find it well worth his while to peruse M. Boucheron's brochure.

A considerable space is devoted to the interesting topic of the reproduction of the hair in cases of *baldness*.

From minute enquiries the author has come to the conclusion that, in general, the bulbs of the hair are only partly atrophied in the tissue of the true skin or dermis,—a circumstance which does not prevent them from recovering their original functions, and from re-secreting the horny matter which forms the hair, under the influence of certain peculiar stimuli.

"This proposition," he says, "will cease to appear at all strange, if we call to mind the remarkable circumstance of the occasional formation of accidental hairs in various parts of the body.

Every one has no doubt heard, for example, of masses of hair being sometimes found in cysts, and on cicatrices and erectile tumors.

If repeated experiments had not in-

contestably proved that after the forcible extraction of the bulbs (as, for example, in the treatment of some cases of *tinca*) the hairs may regrow by other bulbs—whether these bulbs are new formations, or whether they pre-existed in the state of germs—the mere observation of accidental hairs should be sufficient to argue the possibility of such an occurrence. As pointing to the same conclusion, we may allude to the circumstance, that the almost imperceptible down, which we observe on the face of some women, usually assumes such an increase, after the age 40 or 45 years, that they become *etonnement barbes*.

Why therefore should it be impossible to re-animate by appropriate means the hair in cases of baldness, and to excite it to increased activity of growth on the beardless skin of certain faces?"

From the circumstance of the bulbs of the hair being obliquely and confusedly implanted in the tissue of the dermis, M. Boucheron explains why, when one straggling white hair is pulled out from the head, for example, the neighbouring hairs so speedily blanch in their turn; "for," says he, "the extraction of one bulb disturbs and injures the adjacent bulbs, enfeebling their vitality, and thus disposing them to weakness and decay."

There are hairs which, being feeble originally, do not pass through the epidermis; they roll or curve themselves under it, having not sufficient strength to penetrate this envelope.

If however, from any cause, the vital energy of this portion of the skin is augmented, it may become gradually more and more hairy, from having been quite bald and smooth.

M. Boucheron alludes to a curious case, which occurred in the practice of M. Rayer, and in which the inner surface of the thigh, which had hitherto been nearly quite smooth, became covered with numerous stiff hairs, after an attack of phlegmonous inflammation. The same phenomenon is occasionally witnessed as a consequence of blistering.

M. Boucheron has minutely investigated the subject of the colour of the hair. He attributes it to a peculiar

animal oil, secreted by the bulbs, and varying consequently in its properties in different individuals. It is to a change in the colour of this oily matter—arising from a variety of causes which tend to enfeeble the general power of the system—such as advance of years, intense study, grief, &c.—that M. Boucheron attributes the whitening of the hair.

The author gives a minute and very interesting description of the diseases of the *système pileux*. We must refer the curious reader to the original work for details—they will well repay the trouble of perusal.

DR. CASPAR ON THE DURATION OF HUMAN LIFE, &c. &c. (Review).

Dr. Caspar of Berlin published a long and valuable memoir on the above subject about two years ago; and as he is now considered a standard authority on this branch of statistical knowledge, we shall borrow a few extracts from his *wahrscheinliche Lebensdauer*.

After having examined with much minuteness the opinions of different authors as to the average duration of human life, and as to the most satisfactory method of ascertaining such a result, he announces his own doctrine in the following proposition: *The proportion of births to the population in any place expresses almost exactly the medium or average duration of life there.*

For example, suppose that this proportion is in the ratio of 1 to 28—then the average life of the inhabitants of the place will be found to be 28 years.

If this rule be correct, it must follow that the duration of life increases and diminishes in a population, according as their fecundity is greater or less; so that man—if not as an individual, at least as a member of the mass—may be said to have it in his own power to lengthen or to abridge his life.

This, if true, is indeed a proportion of great importance in political economy.

To prove that the mortality is in a direct ratio with the fecundity of any population, and consequently that go-

vernments—seeing that the force of states consists not so much on the mere number, as on the strength, fecundity, and longevity, of their inhabitants—ought not to favour or encourage an over-abundant population, the author has collected together a vast number of facts, and, for this purpose, has drawn up tables of the mortality not only in Prussia, but also in Britain, France, and Belgium.

From these researches he comes to the conclusion, that every where the mortality is directly proportional to the fecundity of the population.

This doctrine, if confirmed by future enquiries, will go far to reconcile the conflicting opinions of Malthus and his opponents; as it shews us that Nature herself tends to remedy the evil of a redundant population.

Dr. C. has given a most valuable table of the mortality in Berlin for twelve years, from 1817 to 1829, which comprises nearly 70,000 deaths in nearly 2,000,000 inhabitants.

The following are a few interesting data which are derivable from his researches.

The longevity of the female is greater than that of the male sex.

The age of puberty carries off 8 per cent. more of the female than of the male sex.

The proportion of deaths of women in labour is 1 in 108.

It has been an erroneous, although hitherto a very prevalent, notion, that the climacteric age of women has a marked influence in increasing the mortality of the female sex.

Two able Frenchmen, MM. Deparcieux and Benoiston de Chateauneuf, had, several years ago, showed the incorrectness of this idea; and the researches of Dr. Caspar quite confirm the accuracy of their statements. On the whole therefore, we may positively assert that the longevity of the female is greater than that of the male sex.

It is also worthy of being mentioned that, of still-born infants, there are more of the male than of the female sex.

M. Caspar proceeds to show that the medium or average duration of life has increased considerably in most Euro-

peau cities, of late years. In London this increase is immense; for it would seem that, within the last century, 'la vie probable y a augmenté by twenty years.'

At Geneva, again, in the 16th century one half of the infants born there died, we are told, before their fifth year; whereas, in the present day, it would appear that this half reaches nearly 43 years of age.

A similar remark may be made as to the increased longevity of life at Berlin.

Before the researches of Dr. Caspar, statisticians had paid little attention to the influence of pursuits and occupations on the duration of human life. He has investigated the subject with great assiduity, and from his enquiries it appears that *clergymen are, on the whole, the longest, and medical men are the shortest liver.* The different classes may be arranged, in respect to longevity, as follows;

Medium longevity.

Clergymen	65 years.
Merchants	62 —
Clerks	61 —
Farmers	61 —
Military men	59 —
Lawyers	58 —
Artists	57 —
Medical men	56 —

Another important agent or influence on the probable duration of life is *marriage*.

It is most indubitably proved by the researches of our author that *the married state is favourable to longevity*; and especially in reference to the male sex.

It is almost unnecessary to allude to the influence of poverty and destitution in shortening the medium duration of human life. Dr. Caspar gives some tables of mortality, which prove how sad is the contrast in this respect between the poor and the affluent. From these it would seem that the medium age of the nobility of Germany may be stated to be about 50 years, whereas that of the paupers is as low as 32 years.

The last chapter of the work treats of the influence of the fecundity of a population upon its mortality.

Dr. Casper shews by a vast number of documents that '*the mortality in any*

population is always in exact ratio to its fecundity,' or, in other words, '*the more prolific that a people is, the greater usually is the mortality among them.*'

He alludes to the difference, in this respect, in the different districts of England; and he proves by numerous data that, wherever the number of births is highest, there the mortality is greatest at the same time.

The same result is derivable from certain statistical investigations in Belgium, France, and other countries.

Dr. Caspar has deduced from the tables in the *Annuaire du Bureau des Longitudes*, that there is a difference of at least six years in the medium duration of life, in favour of the less over the more populous districts of France.

Dr. Caspar closes his work by embodying the general results of his researches in the following conclusions:

1. The proportion of births to the actual stationary population of any place expresses, or is relative to, the medium duration of life in that population.

2. The female sex enjoys, at every period or epoch of life—except at puberty, at which epoch the mortality is rather greater among young females—a greater longevity than the male sex.

3. Pregnancy and labour occasion indeed a considerable loss of life; but this loss disappears, or is lost, in the general mass.

4. The so-called climacteric periods of life do not seem to have any influence on the longevity of either sex.

5. The medium duration of life, at the present time, is in Russia about 21 years, in Prussia 29, in Switzerland 34, in France 35, in Belgium 36, and in England 38 years.

6. The medium duration of life has, in recent times, increased very greatly in most cities of Europe.

7. In reference to the influence of professions or occupations on life, it seems that ecclesiastics are, on the whole, the longest, and medical men are the shortest liver.

Military men are nearly between the two extremes; but yet, proportionally, they more frequently than other reach very advanced years.

8. The morality is very generally greater in manufacturing than in agricultural districts.

9. Marriage is decidedly favourable to longevity.

10. The mortality among the poor is always greater than among the wealthier classes.

11. The mortality in a population appears to be always proportionate to its fecundity—as the number of births increases, so does the number of deaths at the same time.

From the preceding extracts from Dr. Caspar's work, *Die Wahrscheinliche Lebensdauer*, 8vo. p. 216, Berlin 1835, our readers will be able to judge for themselves of its high value and interest.

OF THE INTRODUCTION OF AIR INTO THE VEINS, DURING SURGICAL OPERATIONS.

A Commission was appointed last Autumn by the Royal Academy of Medicine at Paris, to report upon a long and very elaborate memoir presented by M. Amussat, on the 'Introduction of Air into Veins.'

This Commission consisted of seven members—MM. Velpeau, Blandin, Gerdy, Barthelemy, Adelon, Moreau, and Bouillaud—and the report, drawn up by the last of these gentlemen, was recently submitted to the Academy, and excited great and very general interest.

To those, who wish to make themselves acquainted with the literary history, as well as with the opinions of different writers regarding this curious point of physiology, we strongly recommend the perusal of the original report, in the *Memoirs of the Academy*; as our very limited space necessarily precludes us from doing more than giving the more general results of the enquiry.

M. Bouillaud alludes in the first place to the interesting speculations of M. Poiseuille and of the late Sir David Barry, on the influence which the respiratory movements of the dilatation and contraction of the chest have on the motion of the blood in the large veins.

He gives an analytic view of the experiments performed in 1811 by M. Nysten on the effects of introduction of air into the veins,* and proceeds to mention the opinion of M. Magendie on this subject. The last-named physiologist, after stating that the danger in such cases arises from the heart becoming distended with the introduced air, and being thus paralysed, suggests the practice of introducing an elastic-gum tube into the divided vein, and exhausting the air with a syringe affixed to it. "You have," says he, "a ready mode of satisfying yourselves whether any air remains in the heart or not: all that is necessary is to apply the ear over the cardiac region, in order to ascertain if the 'fremissement caracteristique' is perceptible."

M. Bouillaud then reviews the various cases on record, in which it has been alleged that the entrance of air into the circulation has occurred in the human subject, and gives the details of six of the most interesting. They amount in all to 30.

In 1811, M. Bauchene, while extirpating a large tumor from the shoulder, was surprised to hear a sound altogether similar to that which the air makes, when it enters the chest of a living animal by a small aperture. (It was suspected that the pleura had been wounded.) The patient cried out:—*Mon sang tombe dans mon cœur; je suis mort.* He died 15 minutes afterwards.

Dissection. All the cavities of the heart were empty of blood. The cerebral vessels, the inferior cava, the iliac

* The following passage from M. Nysten's work is curious, as alluding to the value of auscultation, before M. Laennec had even dreamed of his future discoveries.

After having suggested that some cases of asthma may depend on the presence of a gaseous fluid, accidentally developed, in the heart, he adds:—

"I am persuaded that, by applying the ear over the region of the heart, we might distinguish, by a peculiar sound, those cases of asthma which are owing to this cause."

veins, the aorta, and the crural arteries contained blood mixed with bubbles of air. The pleura had not been wounded.

2. In 1822, a similar accident occurred in the practice of M. Dupuytren. He was removing a tumor from the neck of a young girl. While engaged in detaching it from its connexions, he heard a prolonged blowing or whistling sound, like that caused by the entrance of air through a small orifice into a vacuum. M. Dupuytren said, *Si nous n'étions aussi loin des voies aériennes, nous croirions les avoir ouvertes*. The patient exclaimed, "I am dead;" sank down on the chair, and expired.

Dissection. The right auricle was found so distended with air, that it gave out an elastic feeling on pressure, and, on dividing its parietes, the air escaped with considerable force. The blood in the bloodvessels, in different parts of the body, contained so much air that when they were pricked, it (the blood), which flowed out, was frothy and bubbling.

3. M. Delpech mentions the case of a man, whose arm he removed at the shoulder-joint. No sooner was the member removed than the patient expired, as if he had been struck with lightning.

We are informed that, on *dissection*, "on vit s'échapper une quantité prodigieuse de bulles d'air, à l'incision des vaisseaux et du cœur."

4. In 1826, M. Castara, while removing a tumor from the shoulder and neck of a young man, heard a peculiar sound, a sort of *glou-glou*, proceeding, as it were, from the bottom of the wound. The patient became instantaneously insensible, drew two or three deep inspirations, and expired.

Dissection. The right auricle and ventricle were found distended, elastic, and crepitating on pressure. On dividing them, a small quantity of blood, mixed with numerous bubbles of air, escaped. The superior cava, and the right subclavian vein, were filled with frothy blood.

5. In 1832, a similar case occurred

to M. Roux. The operation was the removal of a large tumor from the neck. He had raised it in one hand, in order to divide more easily its subjacent adhesions. At this moment a whistling sound, like that of air entering into a vacuum, was heard; the patient emitted a moaning cry, the breathing became exceedingly distressed, and death seemed to have taken place. Compression was made on the wound, stimulants were administered, and, after some short time, the girl began to revive. She died, however, on the 7th day after the operation.

Dissection. The cavities of the heart were empty. The aorta, when pricked at various points, emitted a sanguinolent serosity, which was mixed with numerous bubbles of air; the iliac arteries presented the same phenomenon; but no traces of air were discoverable in any of the veins.

6. In 1836 a patient, whose arm M. Roux was removing at the shoulder-joint, was observed to be unusually pale and death-like. In spite of every means of resuscitation, he expired.

Dissection. The right ventricle was found to present an unusually elastic distension on touch. The coronary veins contained numerous globules of gas; and the same phenomenon was observed in the vena cava.

Within the last few months M. Amussat has communicated another case of a similar accident—only that the patient survived; a fortunate result, which M. Amussat attributes to the forcible compression of the chest which was resorted to.

Such are the cases, which are alluded to by M. Bouillaud as having occurred in the human subject, during the performance of operations.*

* Since the publication of M. Bouillaud's report, M. Velpeau, one of the Commission, has communicated to the Gazette Medicale a very elaborate notice of all the cases, real or alleged, which have hitherto been recorded.

We shall give an abstract of his paper in our next number.—*Rev.*

With a view of throwing some light on this curious point of pathology, M. Amussat has performed a great number of experiments on dogs and horses, to ascertain whether the phenomena, which have been attributed to the entrance of air into the divided veins, ever occur in the lower animals; and in what manner they are affected, when such is the case.

These experiments, amounting in number to 40, were performed before the members of the Commission. In some, the divided veins were not disturbed; in others, they were kept patent, so as to favour the admission of air along their tubes; and in a few instances, the air was introduced either by means of a syringe, or by insufflation with the mouth.

The general results of these experiments we shall now attempt to submit to our readers' attention.

M. Bouillaud observes:—

“Every time that one of the jugular veins has been opened, by a sufficiently large incision, in its lower portion—where the phenomena of a flux and reflux, isochronous with the movements of inspiration and of expiration, are observable—a certain quantity of atmospheric air immediately enters, and penetrates into the right cavities of the heart.

The indicative, and in some degree pathognomonic, signs of this accident, is a peculiar sound which resembles that of lapping, or gurgling, and may perhaps be best expressed by the word *glou-glou*.

It is evident that its *principal cause* is the expansion of the chest during inspiration; the sound, both in quickness of succession and in loudness, distinctly corresponding with the frequency and vigour of the inspiratory movements.

The dilatation and contraction of the right ventricle and auricle of the heart may be mentioned as a *secondary* or *adjuvant cause*.*

* M. Bouillaud says:—

“The phenomenon of the flux and reflux of the blood in the lower part of the jugular veins takes place sometimes under the influence of the alternate

In addition to the *external* sound, we may very generally perceive an *internal* or thoracic one, by applying the ear over the cardiac region. It is a sort of *blowing* or *gurgling* sound, like that caused by stirring water and the white of eggs together.

We have already stated that several physiologists—more especially M. Poiseuille and Sir David Barry—had, some years ago, drawn our attention to the influence of the respiratory movements on the current of the blood in the large veins adjacent to the heart; but it is to M. Amussat, says the reporter, that we owe the clear elucidation of the fact, that *whenever a sufficiently large opening is made in one of the jugular veins—where the movements of flux and reflux are observable—atmospheric air invariably enters into the sanguineous system*.

The same occurrence is apt to happen when the subclavian or axillary vein is divided; as we find was the case in some of the instances in the human subject, recorded above.

It will now be useful to mention briefly the most interesting results of M. Amussat's experiments on the lower animals.

In 15 of the dogs, which were examined immediately after having been submitted to the spontaneous entrance of air into a divided vein, a greater or less quantity of air was discovered within the right cavities of the heart and in the pulmonary artery. The distention of the right auricle and ventricle, thus induced, was in some instances so great, that these cavities had acquired three times their normal size. This *ballonnement*, says M. Bouillaud, is a constant phenomenon.

In some of the animals, air was found mixed with the contained blood, in the facial and cerebral veins also. In several dogs, which did not die for several days after the introduction of air into their veins, bubbles of air were found on dissection at various points of the vascular system; sometimes in the left

movements of the right cavities of the heart, as well as under the influence of inspiration and expiration, as noticed above.”

cavities of the heart and in several of the arteries, and at other times chiefly in the right cavities and in the veins. We may therefore conclude that, if any animal survives for some time the entrance of air into a divided vein, it is propelled along the pulmonary artery into the corresponding veins, and thence conveyed into the systemic circulation.

Hitherto physiologists have too generally assumed the idea that very sudden, or rather almost instantaneous, death follows, the admission of air into the sanguiferous system.

In the case of the lower animals, at least, such is certainly not the case; and there is also good reason to extend this observation to the human subject; as several patients have recovered after operations, in which the peculiar gurgling sound, indicative of the entrance of air into the veins, has been heard.

M. Bouillaud frankly acknowledges that he had expected to find the mortal effects of the accident to be much more rapid, in the lower animals, than proved to be the case on experiment.

In all however, after a lapse of a very short space, varying from one to ten minutes, certain phenomena were observable. These were a rapidity and embarrassment of the breathing and of the circulation, an exhaustion of the general strength, and an anxiety and restlessness of the whole body.

If the experiment closed on the development of these symptoms, many of the animals quickly recovered a state of ease, and gradually recovered.

If, on the contrary, the introduction of the air continued, the distress of the animal gradually increased, the breathing became more hurried and oppressed the exhaustion greater, and, after a few convulsive movements, life was extinguished.

The rapidity of the death—varying, though it does, according to the size and strength of the animal, its state of health before the experiment, the quantity of air admitted, and the quickness with which it entered—may be judged of from the following particulars.

Out of fifteen dogs, eight died in from a few minutes to half an hour after the introduction of the air.

It was observed that, if the animals were sickly or weakened from loss of blood, at the time of the experiment, the fatal effects of the accident were considerably more rapid.

Again; in eight horses, subjected to the experiment of the spontaneous introduction of air into the blood, from an incision being made in one of the jugular veins, death took place in from nine minutes to an hour and a half—the death being much more rapid in those animals which were diseased or exhausted from loss of blood than in such as were not, at the time that the experiment was performed.*

Before quitting this subject, it is right to mention that the rapidity, with which death takes place, is infinitely greater when the air is blown into the vein from the mouth of the experimenter, than when it enters spontaneously from the atmosphere.

Three dogs died, in the course of from half a minute to two minutes, by a single insufflation; and three horses were killed, in from four to six minutes, by two insufflations.

In this mode of the introduction of air into the veins, the animals usually die, as if they were struck with lightning, or felled with a blow.

Whether the extreme rapidity of the death, under such circumstances, is attributed altogether to the force with which the air is introduced into the sanguiferous system; or whether it is partially owing to the vitiated gas which is admitted, must be determined by future experiments.

If we now enquire into the probable causes of death, when air enters the sanguiferous system, M. Bouillaud directs our attention to the following three:

1. The enormous distention of the right cavities of the heart, inducing an irregularity, or even a complete cessation, of its movements.

* It deserves to be noticed that the period of time, at which death usually happened after the experiments alluded to, varied much less in the horse than in the dog.

2. The presence of air in the pulmonary artery and in its branches, causing an embarrassment of the pulmonary circulation, and perhaps also a contraction of the aerial cells.

3. Compression of the brain, from the air being occasionally admitted into the cerebral vessels.*

Such, in the opinion of M. Bouillaud, is the *mechanism of death*, when the introduction of air into the veins proves fatal.

In conclusion, the learned reporter observes, that the results of M. Amussat's experiments on dogs and horses, as well as the phenomena which were remarked in the six cases in the human subject, (alluded to before), leave no doubt on his mind that air may enter any divided large vein about the upper part of the chest, and, by being carried on to the heart, induce a speedy death.

But whether the almost momentary or instantaneous rapidity of the death, which has occurred in some instances in the human subject, is to be attributable solely to this cause, seems still somewhat doubtful. At least, in none of M. Amussat's experiments did the *spontaneous* introduction of air prove fatal to either dogs or horses in less than nine or ten minutes. It may therefore be fairly presumed that the mental alarm of a human being at the moment, not to mention the unhealthy or enfeebled state of his body at the same time, may tend much to accelerate the fatal event. — *Memoirs de l'Academie*, 1837.

Remarks.—In our next number we propose to continue the investigation of this very interesting subject, and give a brief summary of the opinion of the leading surgical members of the French Academy, as expressed in their comments on the report of M. Bouillaud. — *Rev.*

* It is worthy of notice here, that in all the horses, which perish from the spontaneous introduction of air into the blood in M. Amussat's experiments, air was found in the cerebral vessels on dissection; a phenomenon which was of comparatively rare occurrence in the dogs experimented upon.

ON THE RADICAL CURE OF HERNIÆ BY ACUPUNCTURE.

M. Bonnet, one of the surgeons of the Hôtel Dieu at Lyons, has contributed a very valuable paper to the *Gazette Medicale* on the above subject. He has been prosecuting his enquiries for several years past, and in that time he has met with so many cases, which fully warrant him in recommending the practice alluded to, that he is now anxious to communicate his experience to the profession at large.

The method, which he employs, is to insert several needles near to the inguinal aperture and fairly through the herniary envelopes, and then, after arranging them so that the opposite parietes of the sac are brought and kept in contact, to leave them in this situation until adhesive inflammation has been established.

Before detailing particular cases to illustrate the effects of this practice, M. Bonnet alludes to several applications of this form of acupuncture in surgery. MM. Velpeau and Carron du Villards have, for example, used it for the purpose of inducing obliteration of arteries; M. Duvat in the treatment of varicose veins, and several other surgeons in cases of hydrocele, of encysted watery tumors, and of *nævi*, or aneurisms by anastomosis.

But it is unnecessary to do more than simply to call the attention of our readers to these particulars, without entering upon any of their details. The object in all these cases is to excite the effusion of lymph, and thus to induce an agglutination of parts previously apart.

The method, which M. Bonnet adopts in the treatment of herniæ, is as follows.

Having reduced the protruded bowel, he lays hold of the sac close up to the ring, keeping the spermatic cord fairly and firmly to the outside of the forefinger and thumb of his left hand: he then passes a long needle quite through the entire thickness of the part, guarding the head and point of the instrument, when it is fairly through, with pieces of cork, so as to prevent its displacement. Sometimes he twists or

curves the two ends of the needle, as a further security against its slipping out.

He afterwards passes several other needles, with similar precautions, on the inside of this one; and sometimes also one or two on the outside of the spermatic cord. The number of needles that he usually employs is from six to eight. It is well to pass a thread through one of the pieces of cork affixed to each needle, for the purpose of aiding its withdrawal, in case it be imbedded in the swollen part.

The needles are to be withdrawn on from the sixth to the twelfth day; and then a poultice or a compress, wetted with some spirituous wash, should be applied. As soon as the tenderness of the part abates, a compressive bandage is to be used.

The following is the catalogue of cases treated in this manner by M. Bonnet.

Case 1. A man, 66 years of age, had been afflicted with an inguinal hernia on the right side for seven years. The inguinal canal was so wide that two fingers might readily be passed along it; and hence the protruded mass was as large and bulky, as two fists when closed together.

Six needles were introduced in two rows, one above or nearer to the inguinal aperture than the other.

The inflammatory action in old people being tardy, the first needle was not removed till the eighth day after insertion; a second on the thirteenth, and the rest on the following two days. The patient kept his bed for ten days: after this time he rose; and it was then found that the cough, which always caused the rupture to descend quickly before the operation, had no effect upon it.

A fortnight later he was dismissed, apparently cured, but wearing a truss.

It seems, however, that the old man's cough continued afterwards to be as troublesome as ever, and that, in consequence of the continual succussion thus kept up, the rupture came down again three months after he left the hospital.

Remarks. It is to be noticed that everything was unfavourable to a cure in this case—the age of the patient, the size of the hernia, and the constant cough.

Case 3. An idiot, 45 years of age, had been ruptured for twelve years in the left groin, when M. Bonnet saw him. He would never wear a truss; so that every now and then the hernia became exceedingly large, descending as low as the middle of the thigh, very painful, and almost irreducible; the inguinal aperture was so wide, that three closed fingers might be passed through it.

Nine needles were introduced, four in one row, and five in the other.

For the first six days, there was but little pain or irritation. After this period, however, the sac began to swell, and a blush of redness surrounded the seat of the punctures.

By the twelfth day, the punctures were found to be ulcerated; the needles, therefore, were withdrawn on this and on the following day.

On the 17th day, the herniary sac was felt to be empty; but the inguinal aperture was still perceptible, although it was much less open than before.

Unfortunately, at this period, an attack of erysipelas came on, accompanied with a troublesome cough. The result of this was the renewal of the herniary protrusion.

3. The following case was more successful.

A locksmith, 38 years of age, had been afflicted with an inguinal rupture for 13 years: it was as large as the closed fist. M. Bonnet passed four needles through the sac, as near to the ring as possible. For the first four days, the patient experienced but little inconvenience; but then the seat of the punctures became red and painful; and by the sixth day the punctures were more or less deeply ulcerated. The needles were removed on the following day.

When the tenderness, &c. had subsided, the patient renewed the use of a truss; but every now and then he laid

it aside: yet it was found that, even when a fit of coughing came on, there was no return of the herniary swelling. M. Bonnet saw him at various intervals during the next twelve months, and satisfied himself repeatedly that the inguinal aperture had become nearly, if not quite, impervious.

The *fourth* case occurred in a young man, 24 years of age: the hernia was not larger than a hen's egg, and it did not protrude, except after exertion or coughing. He had been recommended to wear a truss, but finding the use of it to be very inconvenient while engaged at work, he had laid it aside.

This therefore was a favourable case; and the result of the acupuncture corresponded with the hops of M. Bonnet. Three needles only were introduced: on the eighth day they were withdrawn. He remained in the hospital for another fortnight, and was then discharged.

M. Bonnet saw him repeatedly during the next fifteen months, and satisfied himself of the permanence of the cure.

In the *fifth* case, the hernia was of seven years' standing: the patient was 23 years of age, and the tumor was as large as the fist. Five needles were passed: they were removed on the seventh and eight days.

It is only necessary to add, that there was never any threatening of the protrusion afterwards. The patient however continued the use of a truss, every now and then, with the view of consolidating the cure.

M. Bonnet alludes to two or three other cases, and also to an instance of umbilical rupture in a dog cured by his method; but our space prevents us from giving their details. It is important however to add, that he has had two opportunities of examining the state of the parts after the operation—in one case, 21 days after the withdrawal of the needles; and, in the other, a year and a half after the date of the operation.

In the first of these examples, the patient died from an apparently aggravated form of suppurative or rheumatic

fever. A large abscess in the psoas muscle was found on dissection, and several of the abdominal viscera exhibited marks of disease.

The subcutaneous cellular substance at the seat of the acupuncture was thickened and infiltrated. The fibrous membrane enveloping the herniary sac, and continuous with the aponeurosis of the *obliquus externus* muscle, did not exhibit any appearance of change. One only of the five needles had passed fairly through this envelope; the other four *avaient passé en de hors de sa cavité*.

On slitting upon the peritoneal sac, its anterior and posterior surfaces did not adhere, except at one point only, where a fibrous column, two lines in length and as thick as a writing-quill, connected these surfaces together; thus dividing the peritoneal sac into an inner and an outer canal.

Remark. The unsuccessful issue of the preceding case was unquestionably attributable to the visceral and other disease, which was existing at the date of the operation. It cannot therefore be fairly deemed as arguing against the propriety of the practice.

The other case, in which M. Bonnet had an opportunity of examining the state of the herniary tumor after the operation by dissection, occurred in an idiot 49 years of age. He had been affected with rupture from his infancy. The tumor was so large that it hung down to the middle of the thigh, and the inguinal canal was wide enough to allow the passage of four closed fingers.

M. Bonnet passed eight needles; but there was great difficulty experienced in retaining them in their situation. Considerable swelling and tenderness of the sac supervened, and a considerable effusion of fluid into its cavity took place. This however subsided by rest and the use of discutient applications. By the end of the fourth week, the patient was permitted to rise from bed; and it was found that even on coughing the herniary tumor did not protrude. It seems however that, two or three months after his discharge from the hospital, the rupture re-appeared. He returned to the hospital about a twelvemonth after-

wards, in consequence of a thoracic affection, which ultimately proved fatal.

On the dissection of the herniary tumor, M. Bonnet found three small fibrous cords, each of about the size of a writing-quill, which bound closely together the peritoneal sac and its outer fibrous envelope.

M. Bonnet supposes that there were similar connecting cords, connecting the anterior, and posterior surfaces of the sac itself, and that these were probably ruptured, when the bowels protruded two or three months after the operation.

It is worthy of notice that, before dissecting the parts, M. Bonnet passed eight needles through the neck of the herniary sac, in order to ascertain what immediate effects were produced by the operation. It was found on examination, that *three only had traversed the sac*. There is therefore, it would seem, considerable uncertainty attending the use of acupuncture, as described above.—*Gazette Medicale*.

CASES OF PHLEBITIS AFTER AMPUTATION.

The accident of inflammation of the divided veins after amputations of the limbs is always very serious and alarming. Most cases of internal, or interstitial, abscesses are found to be connected with this morbid state of the venous tubes. The pathology of this affection will be illustrated by the following details.

1. M. Blandin, in 1830, amputated the leg of a middle-aged man, in consequence of a cancerous growth upon it. Every thing went on favourably for the first week; at the end of which time however, the patient had a shivering fit, which ushered in an attack of pleurodynia. This subsided; but, a week subsequently, a second attack was experienced; and the wound, which hitherto had been going on well, began now to assume an unhealthy aspect, the granulations being very pale, and the suppuration thin and scanty.

Typhoid debility, attended with diar-

rhœa, delirium, &c. came on, and the patient died at the end of the third week after the amputation.

Dissection. Numerous minute vomice were found dispersed on the surface of the left lung, more especially in its inferior lobe. The liver and spleen were healthy.

The popliteal artery, for some inches above the stump, was thickened in its parietes, and filled with purulent matter: several of the muscular branches, terminating in it, exhibited similar appearances. The femoral vein was not affected. Pus was found however in the lumbar, and also in some of the pelvic, veins.

2. A man, 60 years of age, met with a compound fracture of the leg, which M. Breschet deemed to call for amputation. No fewer than twelve ligatures were necessary.

Two or three days afterwards, the patient became agitated and feverish, and the wound began to emit a fetid sanious discharge. By the end of the second week, the patient was exceedingly reduced in consequence of a troublesome diarrhœa, and also of hectic symptoms having supervened. He became delirious, comatose, &c. and died on the 18th day after the operation.

Dissection. A minute abscess was found in one of the convolutions of the right cerebral hemisphere: another, somewhat larger, was detected in the cerebellum.

A purulent effusion was present in the right pleural cavity; and ten or twelve abscesses, more or less imperfectly developed, were scattered through the pulmonary substance, especially in the lower lobes.

Two small abscesses were found in the liver, under its peritoneal coat.

On examining the stump, the divided bones* were found bathed in pus; and,

* In a short article on phlebitis in the Foreign Periscope of our last number, M. Duplay refers very pointedly to the frequent infiltration with purulent matter of the divided bones after amputation, and to the *inflamed state of the osseous veins* in cases of secondary phlebitis.

on sawing them across longitudinally, their spongy texture was observed to be quite infiltrated with purulent matter, which extended upwards to nearly the articular cartilages.

All that is mentioned of the state of the veins is simply that they were *blanches et oblitérées*

3. A young man had to submit to amputation of the thigh, in consequence of white-swelling of the knee-joint. This was on the 26th of December. For several days afterwards he was restless and feverish; the wound did not unite but suppurated freely and unhealthily. Secondary hæmorrhage came on on the 7th of January, and he sunk next day and died.

In addition to an extensive sinus which extended from the pelvis to the stump, the veins of the amputated extremity were found to be diseased. In the internal iliac, and more abundantly in the crural vein, purulent matter mixed with blood was found; and the internal membrane of these vessels was thickened, red, and easily lacerable.

4. A young man underwent amputation of the thigh for a diseased knee-joint.

On the third day after the operation, he was seized with chills and feverish symptoms. In the course of a fortnight afterwards, an abscess formed over the sacrum; the patient became weaker and weaker, and died 23 days after the removal of the limb.

Dissection.—A deep sinuous abscess, extending from the face of the stump along the line of the crural vessels as high as the groin, was detected.

The crural veins contained purulent matter and membranous deposits on its inner surface, which was of a greyish black colour.

Several small abscesses were found in different parts of the lungs; and in several of the joints a semi-purulent effusion was discovered.

It is therefore important that surgeons attend in future to this point in the pathology of the disease.

5. In this case, the crural vein, on the face of the stump, was found gaping, and filled with an admixture of pus and dark blood; its inner surface was coated with a membranous deposit. Similar appearances were discovered in the common iliac vein, and also in the lower extremity of the vena cava.

Numerous circumscribed abscesses, more or less partially formed, were seen in different parts of both lungs.

For the details of the other cases reported, or alluded to, by M. Duplay, we must refer to his memoir.

He has carefully analysed the particulars of 25 cases, related in different surgical works; and from these researches he has deduced the following, among some other conclusions.

Of 23 cases—in two the examination of the internal viscera did not take place—*vomicæ* or abscesses in the *lungs* were found in 19. In 14 of these 19 cases, the abscesses occupied both lungs.

Secondary abscess of the *liver* is of much less frequent occurrence: it existed in 3 cases only; in 2 others there were the marks of incipient change, probably preparatory to the suppurative action.

In 2 cases, abscesses were detected in the *spleen*. In 3 cases, there was an abscess in the *cerebrum* or *cerebellum*. In 5 cases, there was purulent effusion into the *joints*; and, in 4 cases, abscesses had formed in the *cellular* substance of different parts of the body.—*L'Expérience*.

ON THE EFFICACY OF EXTENSION, SHAMPOOING, AND PERCUSSION IN MUSCULAR CONTRACTIONS. By Dr. RECAMIER, of the Hôtel Dieu.

The peculiar functions of all the organs of the body may be disturbed, either directly or indirectly—the deviations from health being in many cases dependent upon the state of an organ at a distance from the one, which exhibits the morbid phenomena.

The contractile functions of the muscles, involuntary as well as voluntary, not unfrequently exhibit the truth

of this remark. My object in adducing the following cases is to point out the great efficacy of simple mechanical means in rectifying many muscular ailments.

1. About eighteen years ago, I was consulted by a middle-aged gentleman, who had for upwards of four years been regularly nailed to his bed by a pain in the right side of the neck, shoulder, and arm, which was so agonizing on the slightest movement that often he could not refrain from screaming out.

All sorts of anodynes and emollients had been ineffectually tried. I advised the use of regulated and, as it were, elastic percussion with the hand on the affected part. At first it was to be administered in gentle taps, and gradually with more and more forcible beats. By the aid of this simple means alone, the patient was speedily relieved from all his suffering, and was soon enabled to resume his duties as a judge of the peace.

2. A young girl, 18 years of age, was admitted, in 1836, into the Hôtel Dieu, under the care of M. Recamier, for pleurisy. At the beginning of the following year, the catamenia, which for some time back had been scanty, were suddenly arrested by exposure to wet and cold. Dyspnoea and general *malaise* were the consequence. She was readmitted into the Hôtel Dieu, Leeches were applied repeatedly to the vulva; but then the left arm, fore-arm, thigh and leg, became affected with extreme rigidity, and these symptoms were accompanied with retention of urine, and with a most painful difficulty in evacuating the bowels.

Bleeding, anodynes, in enemata, as well as given by the mouth, &c., &c., were freely employed, but with no avail; and this poor creature remained for two entire months in the most distressing situation of stiffness of the left limbs and retention of (or rather, we presume, difficulty in passing) the urine and the *fæces*.

On examining the rectum it was found to be quite empty; but the *sphincter ani* was exceedingly contracted.

I dilated the stricture; the pain, al-

though severe at the time, ceased almost immediately, and the evacuation of the bowels became at once much more easy.

The result of this first trial induced me to treat the urinary affection in a similar manner; and with this view I began to work or knead (*masser*) the neck of the bladder against the pubes, by means of a finger introduced into the rectum; the strangury ceased as quickly as the constipation had done.

I then resolved to apply a similar mode of treatment to the contracted muscles of the limbs, acting as in cases of ordinary cramp.

I commenced with the arm; and it was not without great difficulty that I overcame, little by little, sometimes by continued efforts and at other times by efforts *en cadence*, the resistance of the extensor muscles of the fore-arm, the flexor of the hand, and also of the deltoid and other muscles of the shoulder-joint.

By dint of patience, however, the arm was bent, the hand opened, and the arm was gently removed from the side: then laying hold of the hand, I kept swinging it about.

After this rather violent, and moreover painful, manipulation had been continued for some time, it was found that the patient was able to move her arm about herself.

My attention was then directed to the affected lower extremity; but here it required the strength of three people to bend first the knee and then the thigh on the pelvis. We may readily suppose that these efforts were attended with great suffering to the patient. When the pliability was once restored, the limb was swung about from side to side for some time. This did not require to be continued long, till the girl was able to use the limb herself, so as to walk about the ward.

Gradually she recovered the use of all the contracted parts, so that she soon left the hospital nearly quite well.

The *third* and *fourth* cases were of wry-neck; in both, the disease was cured by the gradual but forcible extension of the contracted muscles.

The *eleventh* case which M. Recamier relates, was one of permanent and painful rigidity of the muscles on the back of the neck, in an elderly lady, who was in consequence of the affection confined constantly to her sofa. A variety of means had been ineffectually tried for a length of time, when, on the suggestion of our author, shampooing and compression speedily effected a cure.

5. Five and twenty years ago, I was consulted by a lady, who had long severely suffered from a *fissure of the rectum*, for which the late Baron Boyer had divided the sphincter.

The operation however, did not prevent a relapse of the disease, and the patient continued to suffer dreadful pain in the rectum, especially on going to stool.

Dilatation of the sphincter and of the lower end of the rectum by means of bougies, gradually increased in size, ultimately succeeded in effecting a perfect cure.

It is to be remarked that in this, and in many other similar cases, the dilatation was attended with excruciating pain.

Dr. Recamier mentions several other instances of painful constriction of the anus, either simple or complicated with hæmorrhoids, fissures of the rectum, &c., in which the use of gradual but forcible distention of the gut was speedily followed by great relief, and ultimately by complete recovery.

He adds that the surgical operation of dividing the sphincter may be dispensed with in the majority of cases.

6. Several years ago I was sent for to a middle-aged lady, who was suffering dreadful torture from *une colique nerveuse et apyretique*.

Without delay I placed my extended palms on her belly, and commenced a gradual and firm compression—this had not been continued long before the severity of the suffering quite ceased.

In a future paroxysm I made her waiting-maid *asseoir sur le ventre de sa maitresse*; and this mode of compression was speedily effectual (!)

In another case of a like nature, I have

used with success a binder drawn very tightly round the abdomen; adding, if necessary, a pad or cushion over the seat of the pain at the same time.

When in severe colic the intestines are felt through the abdominal parietes, like hard cords or serpents, I have repeatedly relieved the patient's sufferings by kneading them, as it were, with my hands, so as to overcome their unnatural state of constriction.

7. A lady, thirty-two years of age, had long suffered from excruciating pain in the hypogastrium, unattended, however, with fever. On examining per vaginam, the uterus was felt to be quite healthy; but, on examination by the rectum, the posterior surface of the uterus was found to prevent several inequalities to the finger. This case I regarded to be one of a purely nervous, or muscular, character, and likely therefore to be benefitted by compression.

Grasping the uterus in the hypogastrium with my left hand, I pressed upon, with two fingers of my right hand in the rectum, the inequalities just now mentioned; I was surprised to find them gradually disappear; while at the same time the patient, who at the beginning of the experiment suffered most severe pain, declared that she was now comparatively quite easy.

These *bosselures* having been in this manner dissipated, on three or four occasions, the pains ceased to return.

The cure was rendered permanent by the use of a bandage, tightly laced round the pelvis and hypogastrium.

What relation is there, adds, M. Recamier, between the cause of these uterine pains and the partial spasms of the womb—an organ which we know to be muscular and eminently contractile?

The next two cases, which our author records, are instances of violent intestinal spasms, which were speedily relieved by the employment of forcible compression, and of enemata of warm water administered at the same time.

10. A lady, thirty years of age, had for several months been affected with a

permanent and apyretic hiccup, the *secousses* of which were so violent, as quite to lift up and shake every part of the body. Various remedies of an anodyne, antispasmodic, &c., nature had been employed, but without decided benefit. I suggested the use of a firm belt, provided with a pad or cushion, placed over the pit of the stomach. By this simple means alone, the patient got entirely rid of her annoying ailment.

12. A young lady was, in 1834, affected with various chlorotic symptoms, for which steel, active exercise in the open air, &c. &c. were recommended by Dr. Colson of Beavais. In 1835, after exposure to wet and cold, she began to be affected with an incurvation of the spine to the left side, so that the trunk formed at length an angle of 45 degrees with the vertical axis of the pelvis; and, at the same time, the right shoulder was lifted up to almost a level with the head, and the right forearm was immovably contracted upon the arm. Such was the condition of this poor invalid, when she was sent to Paris to be seen by MM. Andral and Marjolin and by himself.

Leeches, cupping over the spine, baths, &c. had been repeatedly tried; but without any effect. The result of the metropolitan consultation was to recommend the use of gymnastic treatment, of fumigations, of leeching and cupping, of embrocations, &c.—but these means were used with no better results than heretofore.

She was then put under the care of M. Guerin, and subsequently of M. Humbert at Morlaix; and, although nearly two years were spent in trying various remedies, the condition of the patient was little, if at all, improved.

Upon her return from Morlaix, she once more consulted M. Recamier, who, remembering the striking results obtained in the second case, suggested to M. Colson to try a similar mode of treatment.

Severe pain was caused by the forcible extension of the fore-arm, combined with the shampooing of the biceps muscle. This might have been expected,

seeing that the muscle had been permanently contracted for upwards of three years.

The gradual extension and kneading of the muscles of the affected shoulder and of the trunk were attended with much less pain; indeed the manipulation, although very irksome, was almost immediately followed by a feeling of great relief. The improvement of the state of the shoulder and of the affected side of the neck was speedily most remarkable; the condition of the arm and fore-arm was not so promising.

By continuing, however, steadily the same plan of treatment, this young lady gradually recovered the use of the contracted limbs, and was enabled to resume *ses anciennes habitudes*; whereas, during the preceding three years, she had been quite shut out from society, and an object of great helplessness.

13. Last December I was sent for to meet MM. Lisfranc and Chevreux in consultation upon the case of a middle-aged lady, who had been affected some months previously with hysterical ailments; on the cessation of which there supervened a violent pain, first in the coccygeal and then in the cervical and occipital regions, recurring in fits of the most excruciating agony.

During the continuance of these most severe sufferings, there were also, now and then, symptoms of a subacute inflammation of the uterus and its appendages present.

The patient had been visited by M. M. Andral and Chomel. A host of medicines, antiphlogistic anodyne, epispastic, derivative, &c. had been tried; but without any decided benefit. The quantity of opium, which she had taken without producing even narcotism, was immense. What had procured perhaps more relief than anything else was the application of four grains of the extract of stramonium to a blistered spot on the scalp; but the symptoms of poisoning from it were so alarming that the physician was unwilling to repeat the remedy.

M. Recamier, having attentively studied all the phenomena of this very aggravated case, suggested the following

means to be tried:—a firm belt round the hypogastrium, provided with a strap and cushion to compress the os coccyx and the fundament; enemata of assafoetida, camphor, castor, opium, and sometimes of quinine, when the return of the paroxysm appeared to be at all periodic; the internal use of pills of musk, camphor, and assafoetida; electro-puncturation; and lastly the extension and shampooing of all the mûcles, which were at any time affected with cramp.

Before leaving the house of the patient, M. Recamier had an opportunity of witnessing one of her dreadful paroxysms of pain, which had, hitherto, usually lasted for three or four hours: the head was thrown backwards, and her features were distorted by convulsions. Having satisfied himself that the muscles on the back of the neck and shoulder were violently contracted, he requested MM. Lisfranc and Chevreux to fix the two shoulders, while with one hand he (M. Recamier) forcibly drew the head forward, and with the other he *kneaded* and *pommelled* the affected muscles.

The patient all this time was screaming out with pain; but no sooner was the head fairly bent forward than she began to smile, and confessed that she was quite easy. M. Recamier advised that the head should be moved about from side to side for some time, in order to prevent the speedy return of the cramp.

The future relapses of the disease were always treated in the same simple manner, and with equally gratifying success.

(The report stops here.)

M. Recamier closes his interesting and instructive paper by the enunciation of the following conclusions:—

a. It is very necessary to discriminate those spasms or contractions, which are not dependent upon, or proceed from, an affection of the nervous system, but which constitute a direct loss of the contractile functions of the affected muscles themselves.

b. In idiopathic muscular contrac-

tions, in wry-neck, in spasmodic colic, in permanent spasms of the sphincters, &c., the use of extension, compression, and shampooing, and the application of the cupping-glasses, seem to be by far the most efficacious means of treatment.

c. Hence it is rarely necessary to have recourse to section of the contracted muscles in such cases. Where we know, or have reason to suspect, that there is an actual degeneration or morbid change of structure in the part, such an operation will probably be necessary.—*Revue Medicale*.

Remarks.—We quite agree with the Editor of the French Journal, in which M. Recamier's paper appears, that it is one of the most practically valuable which has been communicated to the profession for a great length of time.

The character of M. Recamier stands very high among the ablest physicians of the French metropolis: from our own experience of the French medical literature, we should be inclined to award the palm of pre-eminence to him and to M. Andral, as the two men of the largest and most comprehensive minds, and the best imbued with the genuine spirit of true philosophy.

Their views on medical questions are always clear and sagacious, and their practice seems to be invariably simple and natural.

They are the very antipodes of such men, (able though these are) as MM. Bouillaud, Velpeau, &c. who too often allow themselves to adopt certain notions of disease, and strive to confine nature within definite and arithmetical calculations.—*Rev.*

PROTO-IODURET OF IRON IN SYPHILIS.

This chalybeate has been of late employed with very decided advantage, internally as well as externally, in the treatment of old syphilitic cases, more especially in persons of a scrofulous or lymphatic constitution. It may be

usefully combined with bitters, antiscorbutics, &c. in the dose of from six to forty grains daily.

As an external remedy it may be employed as a lotion or injection.

The proto-ioduret of iron is obtained by heating together about fifty parts of iodine, and fifteen parts of iron filings, with a hundred parts of distilled water: the liquor acquires a greenish colour. It is to be filtered, and quickly evaporated to dryness, protecting it all the while as much as possible from contact with the atmospheric air.

The salt is to be kept in a firmly corked phial.—*Revue Medicale*.

HOOPING-COUGH TREATED WITH CARBONATE OF IRON.

Dr. Steymann, a correspondent of one of the German journals, very strongly recommends the use of chalybeate medicines in the cold or chronic stage of whooping-cough.

He gives it, at first, in minute doses frequently repeated, alone or in combination with sugar. He always premises the use of an emetic.

Case 1. Henry Schraeder, 11 years of age, had been suffering from severe whooping-cough for upwards of two months, when Dr. S. visited him. He prescribed—

Carbonate of iron . . . 25 grains,

White sugar 20 grains,
divided into ten powders, and one given every three or four hours.

In the course of a very few days there was a marked mitigation of the cough. The quantity of the carbonate in the powders was gradually increased; the whooping ceased, and the patient quickly recovered his strength and plumpness.

Case 2. Jules Etier, five years of age, had just recovered from the small-pox, when he was seized with whooping-cough. He had been suffering from most violent paroxysms of it for upwards of three weeks, when Dr. S. ordered him the use of the carbonate of iron. At the expiry of four days, the

child was completely relieved from the cough.—*Medicinisches Corresp. blatt*.

N.B. The suggestions in the preceding communication appear to us to merit the attention of medical men.

ON THE MORBID DIATHESES WHICH HAVE SUCCESSIVELY AFFECTED THE NATIONS OF EUROPE.

Dr. Hecker (the well-known author, we presume, of several works on the diseases of the middle ages) selected the above subject as the theme of his discourse last year before the Royal School of Surgery at Berlin.

On a former occasion he had directed the attention of his audience to the general constitutions or prevailing types of epidemic febrile disorders, which have spread over Europe in different seasons, and the prevalence of which may be said to characterise different portions of its history. These, he shewed, had varied so much in their leading features during different epidemics, that it is quite impossible for any one to deny the existence of certain *pathological periods or epochs* distinguishable, the one from the other, by peculiar characters.

In the present discourse, he limits his remarks to a few of the *apyretic* or *non-febrile diseases*, which have prevailed at different periods of the Christian æra; and of these he selects Gout, (we suppose under this term rheumatism also is included,) the Oriental Lepra, Scrofula, Syphilis, and Scrofula.

The nations of Europe have long suffered, and still suffer, from these disorders. It is to be remarked, however, that they have never prevailed extensively at one and the same period of time; and that their succession has presented some curious and interesting characters. When, and under what circumstances, each made its first appearance, is a subject which, we believe, will never be cleared up. There is indeed strong presumption to believe that some of them, at least, were not known to the ancients; others, and more especially the Gout, (including as we have previously suggested, the varieties of

rheumatism,) seem to have been even more widely diffused, and also more obstinate and intractable in its nature, than in the present day. We are led from various sources to suppose that it frequently prevailed over immense extents of country as a general epidemic; just as we see to be the case, in our own times, with influenza, and the class of eruptive fevers. It would indeed be difficult, says Dr. Hecker, to fix, with any degree of precision, the epoch at which this epidemic commenced or ceased; but it seems to be very probable that the date of its outbreak was about two hundred years before the Christian æra, and that it continued to recur, at various intervals, for the next eight centuries.

Several epidemic diseases seem to have succeeded to this one. Of these by far the most important was the Leprosy of the East. It was carried into Italy after the conquest of the kingdom of Pontus; but it does not appear that it took root *d'une manière définitive* in Europe till the second century of the Christian æra, nor did it prevail as a wide-spread epidemic till the commencement of the seventh century.

From this period it spread widely, carrying alarm and misery into all classes and grades of the people. The history of this epoch of Europe is full of the most appalling details of the pestilence. Vast lazarettoes were established in every country for the seclusion of the lepers, who were not only deprived of their freedom, but also declared incapable of retaining their civil or personal privileges.

In the thirteenth century, France alone had upwards of 2000 of these leper-houses; and in the other nations of Europe there were more than 1600, containing between 2 and 300,000 of the sick.

In the course of the following century, it began, without any very obvious cause, to diminish in frequency as well as in virulence; and it ceased almost altogether towards the close of the fifteenth century.

The Scurvy then took the place of the Leprosy; and its epidemic march is a very striking example of the metamor-

phosis of the general constitution of European health. The German nations seemed to have been most alarmed at the outbreak of this new pestilence; its appearance coincided with that of the *sweating-sickness* (la suette Anglaise) in the army of Henry VII. in 1486.

From this period, the scurvy became a prevailing *dyscrasis*, which affected the type or character of almost all other diseases; thus rendering what was comparatively mild and innocuous of a most alarming import. Without mentioning its frequency among sailors, we may state that it was one of the most destructive scourges in the armies of almost every European nation. During the last sixty or eighty years it has been, comparatively, but little known.

Contemporaneously with scurvy, Typhus fever has been one of the most widely-spread epidemics throughout Europe, for the last three centuries.

These two diseases, the one of a chronic or apyretic, and the other of an acute or febrile character, characterise in an especial manner the *general dyscrasis* of the European nations since about the year 1480.

A very peculiar feature of the Scurvy is the circumstance of its blending or allying itself, as it were, with other diseases, and thus modifying and aggravating their usual character or type.—*It was an alliance of this sort*, says our author, *that engendered the disease of syphilis at the close of the fifteenth century.*

Various conjectures as to the origin of this new pestilence, Syphilis have been formed at different times; some tracing it from America, others from the army of Charles VIII. in Italy, &c. But all these hypotheses, supported although they have been with much elaborate erudition, are equally incorrect. It might be, with quite as much plausibility, derived from England, or from Germany, or from Egypt; for its primitive or essential forms existed in every country for ages before the close of the fifteenth century; and the new and alarming symptoms, which it displayed in 1495, are to be attributed altogether to its being complicated with the scorbutic or putrid diathesis then existing.

Syphilis is therefore to be considered as an old and well-known disease—aggravated at a certain epoch by the addition of a new morbid element. If we follow its career during the last three centuries, we shall find that it has been always alarming, just in proportion as it was allied or complicated with scurvy and the petechial form of typhus fever.*

During the last fifty or sixty years, the Scorbutic diathesis having almost entirely ceased to exist in Europe, the Syphilitic disease has resumed its original or primitive conditions.

This amelioration is attributable, therefore, not so much to the remedies which have been employed, or to any improved method of treating the disease, as to a spontaneous and natural change in its essential elements.

Following the historical succession of Morbid Diatheses, which have presided over the countries of Europe, the *Scrofulous* may be said to succeed to the *Scorbutic*; less terrible in its outward features, but quite as destructive in its ravages as its predecessor. When we consider that the tuberculous *dyscrasis* is only one of the forms of *Scrofula*, and that this is the parent source of pulmonary consumption, we can at once appreciate its truly formidable character. Its development may be traced back to the commencement of the seventeenth century—at which period the *Scrofulous* Disease of the spine appears to have been remarkably prevalent. The evil was much encouraged by the mode of life too common in large towns; the people being crowded together in small ill-ventilated houses, and so many of them engaged at the same time in sedentary unhealthy occupations. *Scrofula* may be considered as truly and essentially a disease of town-life. It is fostered by whatever has a tendency to enfeeble and enervate

the vital energies; and, on the other hand, the tendency to its development is most surely counteracted by the enjoyment of pure air, and of active and even laborious exercise.

Such is the *ensemble*, says Dr. Hecker, of some of the historical facts connected with the subject of my enquiries, in a general point of view. They exhibit to us an uninterrupted succession of different morbid *diatheses* or *dyscrases*, which have prevailed in Europe at different epochs—without, however, at all revealing anything of their special cause or origin. And yet who can, with any semblance of reason, attribute this series of phenomena to a blind chance, or a mere hap-hazard of Nature?

It is much wiser to confess our ignorance of this curious branch of historical research—most deserving of future investigation—while we, at the same time, recognize the sufficient evidence to convince us that the great *phases*, so to speak, of national health are obedient to certain laws.—*Revue Medicale*

ON THE MICROSCOPICAL EXAMINATION OF THE URINE.

In one of the recent numbers of this Journal (*Medico-Chirurgical Review*) we gave an analysis of M. Donné's investigation of the urine, when there is an admixture of seminal fluid in it, by means of the microscope.

More recently the attention of M. Rayer, the distinguished physician of La Charité, has been directed to a similar train of research; and we are informed by one of his pupils M. Vigla (who has communicated a very interesting memoir to the French Journal *L'Experience* for Dec. 1837), that already some highly useful discoveries in the Pathology of the urinary secretion have been obtained by his preceptor.

It is, perhaps, scarcely necessary to say, that when the urine is healthy and quite transparent, the microscope can afford little or no information as to its quality or its contents. It is only when either it is charged with an unusual

* This view of the history of syphilis will probably be quite novel to most of our readers. It deserves attention, considering the abilities of its propounder, Dr. Hecker; but whether it is likely to be adopted generally, seems to us more than doubtful.

quantity of saline matter, this having the tendency too to deposition, or when it is more or less loaded with foreign animal secretions, such as pus, semen, fatty matter, &c. that we can expect to derive much assistance from any optical experiments.

M. Vigla has entered very minutely into the general investigation of the subject, and has described with much accuracy the phenomena, which he has detected in the urine from an admixture of various substances, such as pus, mucus, albumen, blood, &c. &c.

As a specimen of his researches, we shall extract his notice of the appearances presented by the presence of *fatty matter in the urine*.

"When this sort of urine is allowed to remain at rest for several hours, there appears on its surface a thin pellicle of greasy or oily-looking matter (the *cremor* of semeiologists). To this pellicle are usually attached, in a confused manner, globules of mucus, or crystals of uric acid or of the ammoniaco-magnesian phosphate.

If a minute quantity of this *cremor* be placed on a watch-glass, and a drop or two of æther be poured upon it, we find, upon examination with the microscope, that the globules of mucus and also the crystals of saline matter become much more distinct than before, and that at the same time there appear around the minute mass traces, not equivocal, of the greasy or oleaginous substance, remaining after the evaporation of the æther.

It is not uncommon to meet with globules of fatty matter in the urine, especially when this fluid is albuminous or purulent. These globules, of very unequal sizes, have a peculiar appearance, and are moreover soluble in æther.

Lastly the urine, which is usually called milky and chylous, is found to contain a considerable quantity of fatty matter."

The following extract too will be read with interest.

"Dr. Prout states that, in the urine of diabetic patients, he has met with a fluid of the colour of milk, exactly similar to chyle, and which settle

slowly to the bottom of the vessel. In such cases, the vinous fermentation goes on very rapidly, the chylous matter, seeming to act in the manner of a ferment or yeast."

We have observed similar phenomena in the urine of some diabetic patients.

The sediment formed a thin layer of a whitish matter, soft and unctuous to the touch: treated with alcohol, it yielded a very minute quantity of oleaginous matter. Examined with the microscope, it exhibited myriads of regular formed globules, transparent, and smaller than those of milk. This urine passed very quickly into a state of vinous fermentation. M. Quevenne, unacquainted at the time with the writings of Dr. Prout, had announced that this matter was not of the nature of chyle, but that it was truly *un ferment aussi actif que celui de biere et peutetre même identique avec ce dernier*."

M. Vigla proceeds to give an interesting amount of the detection of a case of *simulation* on the part of a woman who was in the habit of mixing a small quantity of milk with her urine. It was opaque, of a turbid appearance, and altogether like very purulent urine, when first voided.

After remaining quiet for some time, there was deposited a whitish layer, which still much resembled a purulent admixture, that had fallen to the bottom of the vessel: above, the urine was perfectly clear.

On examining this urine with a microscope, M. Vigla was surprised to find, instead of globules of purulent matter, globules much smaller than these, and very similar to those observed in milk. Suspicion was thus awakened; and ultimately the fraud was detected by finding that the urine drawn off by a catheter was perfectly limpid and free from any admixture.

It may be worth while noticing that acetic acid coagulates *caseum* in urine. The phenomenon of coagulation is very obvious under the microscope.—*L'experience*.

ON THE RELATIONS, IN POINT OF NUMBERS, OF THE MALE AND FEMALE SEXES.

The object of the author, M. Girou de Buzareingues, is to prove that, *whatever tends to increase the muscular energy of the two parents contributes, by its influence on the organization, to the pro-creation of the male sex.*

(It is impossible to give an analysis of this curious paper, in consequence of the number of arithmetical tables appended to it. All therefore which we can do is to cull a few,—detached and mutilated though they be,—extracts here and there.)

He alludes to former works in which he has shewn that the above position holds true in all ranks and stations of life. The number of the births of girls, he says, is almost always inferior in the marriages of young than of aged parents; while the reverse is the case in the first fruits of such marriages as take place in seasons of idleness, dissipation and debauchery—the number of female infants being, under such circumstances, very generally greater than that of male infants.

In reference to the season of the year, more marriages, it seems, take place throughout France in January and February than in any other two months.

The first children are usually born in the tenth or eleventh month after marriage, and consequently within one year of its celebration.

The second birth commonly occurs in from twelve to fifteen months after the first.

In general, there is a greater proportional number of female than of male infants in first births; and, on the other hand, the number of male births is usually higher than that of the female, in second conceptions.

The relative number of male births was very high in the year 1811. This might have been owing partly to the numerical decrease in the number of marriages that year, and partly to the national movement occasioned by the marriage of Napoleon, (*mouvement national de 1810, occasionné par le mariage de l'Empereur*)!

It is also ascertained that the relative number of male births was high in the year 1815, in consequence of the *movement* of the preceding year; and that the same holds true of the years 1808, 9, 10, 11, and 12, owing, no doubt, to the activity and excited energies of the whole nation.

On the other hand, the three or four years preceding the last expulsion of the Bourbons were years of repose, and we know that the relative number of female births was high during this period.

We have already said that in general there is a greater number of female births among the more aged than among young married people. But this proportion varies a good deal in different parts of the kingdom.

An influence, which seems to be much more potent in determining the proportionate number of births of the two sexes, is the condition of the country in respect of peace and ease on the one hand, or of excitement and national bustle on the other.

The truth of this fact was exemplified at several epochs of the Imperial sovereignty; as it is now found that the years of highest prosperity and abundance were always followed by a relative increase of female births, and *vice versa*.

It is a remarkable fact that the maximum of female births during the reign of Napoleon was in the prosperous years of 1806 and 1810; and it is equally deserving of notice that, during the four consecutive years of 1813, 14, 15, and 16, the relative number of female births remained steadily below the usual medium or standard.

The same inference is deducible from an inspection of the general tables of births throughout France during the reign of the Emperor, and also during the period of the restored sovereignty.

From these it appears that the proportional number of the births of the male sex was considerably greater during the former than during the latter period of time.*—*Revue Medicale*.

* Most of our readers are probably aware that the actual number of male

Remarks.—The observations of our author seem to us to be more droll and amusing than instructive.

We are much inclined to believe that it is not given to us to know anything of the causes which influence the generation of the two sexes, in relation to the comparative frequency of each other. This is one of the mysteries, which we may examine in reference to *statistics*, but which is probably not to be explained on any *physiological* hypothesis.

Indeed some of the data, brought forward by M. Girou, seem to us to argue against the very conclusions which he has drawn from them.—*Rev.*

MEDICO-LEGAL CONSIDERATIONS ON THE MOST FREQUENT CAUSES OF SUDDEN DEATH, AND MORE ESPECIALLY ON ONE HITHERTO VERY LITTLE KNOWN—THE DISENGAGEMENT OF A GASEOUS FLUID IN THE BLOOD.

The author of the following observations is M. Ollivier, of Angers, a member of the Royal Academy of Medicine, who has of late years very successfully devoted himself to the advancement of medico-legal sciences.

He commences his memoir by specifying the most frequent causes of sudden death, classifying them according to the organs in which they have their seat.

I. *Lesions of the Encephalon.*

He adduces three cases—one of *cerebral hæmorrhage*, another of *apoplexy in the medulla oblongata*, and third of *purulent meningitis*.

In the *first* of these cases, the examination of the body did not take place until three months after interment. The husband of the patient had been suspected of having caused her death; but the appearances on dissection—the chief of which was *une alteration par-*

births almost always and everywhere exceeds that of female births, in the ratio of 1000 to from 935 to 950 or 60.

ticuliere resultant de la decomposition putride—satisfied M. Ollivier that she had died from an extensive cerebral hæmorrhage in the right anterior lobe of the brain.—*Archiv. Gener.* p. 467. 1831

In the *second* case—that of Apoplexy in the medulla oblongata, which occurred in a healthy old man—the death was almost instantaneous.*

The *third* case is interesting, as illustrative of what extensive organic disease may exist, while the patient is still able to attend to his ordinary duties.

A labouring mason went to his work near the Hôtel de Ville, at the usual early hour in the morning. He soon however, began to complain of great debility; and this so much increased in a short time that he was obliged to return home. He died in the course of the evening.

On dissection, a puriform exsudation was found in the sub-arachnoid cellular tissue, diffused over the greater part of the upper surface of the cerebral hemispheres.

There was no trace of any sanguineous effusion; and the thoracic and abdominal viscera were apparently quite sound.

M. Ollivier alludes *en passant* to two other cases of sudden and unexpected death from cerebral Meningitis.

II. *Lesions of the Lungs.*

Cases of sudden death from this cause

* M. Ollivier, in alluding to the great frequency of sudden death from cerebral apoplexy, adds that 'the well-known symptoms of this disease cannot generally be mistaken.'

As a general position, the truth of this statement cannot be gainsayed; but it is more than doubtful that many cases of *very sudden and instantaneous death* are owing to apoplexy of the cerebrum, unless indeed the medulla oblongata be at the same time implicated: it is, however, rather to the *heart* than to the *encephalon* that we are to look for the cause of the disease under such circumstances.

are of less frequent occurrence than from the former. M. Ollivier however reports two very remarkable cases, which well deserve notice.

4. *Emphysema of the Lungs.* Two men from quarrelling came to blows. They were however speedily separated. The stronger and older, being obliged by the interference of the attendants to master his resentment, hurried directly home; but no sooner had he reached the door of his house than he dropped down dead.

It was at first suspected that he must have received some blow in the scuffle; and M. Ollivier was therefore ordered by the public authorities to examine the body. *The cause of death, says he, was quite natural: it had been occasioned by a spontaneous emphysema of both lungs.**

The experiments of M. Leroy on asphyxia can leave no doubt that sudden death may be occasioned by this morbid state of the respiratory organs.

5. *Pulmonary Apoplexy.* A middle-aged man, in a violent fit of passion, was in the act of rushing forwards to strike his adversary, when he suddenly became deadly pale, staggered for a step or two, fell down, and expired.

Such, at least, was the story of the other man.

An examination of the body was therefore ordered, and M. Ollivier performed it.

There was no marks of any outward violence on the body, and the only internal lesion to account for the death of the patient was an extensive *pulmonary apoplexy*.

"Both lungs were found to be unusually firm, resisting, and heavy;—when divided their tissue exhibited a deep bluish red colour; and all the branches of the pulmonary veins and arteries were found filled with clots of blood."

M. Ollivier remarks that certain communications, which have been made to

him from the Bicetre hospital, have led him to believe that Pulmonary Apoplexy, or *engouement* (congestion), is an occasional cause of sudden and unexpected death in old people.

6. *Double Pleuro-pneumonia.*—A young woman, five months advanced in pregnancy, had been ailing for a few days; but this had not prevented her from attending to her domestic duties. She was preparing to go to her sister's house, when, on the return of her servant in the course of half-an-hour afterwards, she was found dead on the floor.

The dissection proved that *la mort avait été causée par une pleuro-pneumonie double*.

Such an occurrence is rare in early life; but it is not unfrequently met with among the aged inmates of such hospices as the Bicetre, Salpêtrière, &c.*

III. *Lesions of the Heart and great Blood-vessels.*

From the researches of M. Ollivier, (recorded in the article *Ruptures of the Heart, &c.* in the 8th vol. of the *Dictionnaire de Médecine*.) it follows—and his experience no doubt quite agrees with that of other pathologists—that most cases of *instantaneous* or of *very sudden death* are attributable to some form of this dreadful lesion. It also appears that, in not a few cases of this description, there has been, previously to the fatal attack, an almost entire absence of any cardiac distress; and hence that the real cause of death has not been even suspected before the dissection of the body.†

* In the Foreign Periscope Department of one of the recent numbers of this Review, our readers will find an interesting memoir on the frequency of sudden death among the aged inmates of such establishments from *unsuspected pneumonia*: in several of the cases the patients had been seemingly in their ordinary health a few hours before their decease.—*Rev.*

† We cannot too urgently impress attention to this melancholy truth on the minds of medical men.

* The curious reader will find other similar cases in the recent works of MM. Piedagnel, Pillore, and Leroy, alluded to by our author.

Case 7. Rupture of the Pulmonary Artery. A healthy robust youth, 22 years of age, was in a scuffle wounded in the neck; he fell down on the spot, and died almost directly. Very little blood flowed from the wound. On dissection the wound, situated about an inch above and to the outside of the sternal extremity of the right clavicle, was found to have penetrated two inches in depth, and to have passed between the trachea and the left subclavian vein; but neither had these important organs suffered any injury, nor were any other considerable blood-vessels wounded.

On opening the cavity of the chest, nearly five pounds of black coagulated blood were found in the left bag of the pleura; the cavity of the pericardium also contained a quantity of clotted blood. This sero-fibrous envelope exhibited an irregular rupture, nearly two inches in length, at the point corresponding to the root of the left lung: the pulmonary tissue also there was infiltrated with dark blood. The pulmonary artery was found to have given way, just beneath the point where the pericardium is reflected upon this vessel. its parietes did not however exhibit any traces of morbid change.—*Archives Générales.*

We shall conclude this memoir in our next number, and we shall then adduce several cases to prove that sudden death is sometimes owing to the extrication of a gaseous fluid in the blood itself.—*Rev.*

It is an awful, but a salutary, admonition to avoid rashness and over-confidence in the pursuit of our profession.

USEFUL APPLICATION TO BED-SORES.

A correspondent of the *Bulletin General de Therapeutique* recalls to the attention of medical men a very excellent, and easily prepared, local application for those troublesome and distressing sores which are so apt to occur in bed-ridden patients.

It is unnecessary too allude to the frequency of this annoyance in certain cases of protracted disease, more especially of obstinate fevers, of phthisis, &c., and to the extreme difficulty of counteracting it. The late M. Autenrieth of Vienna was much in the habit of using the thick sedimentary deposit obtained by adding the liquor plumbi, drop by drop, to a strong decoction of oak-bark—in short a *tannate of lead*—as a topical remedy to bed-sores, with great success. The super-natant liquor being decanted off, the sediment is easily procured; it is then to be spread on linen, as we do with an ointment. The application to the abraded surface should be repeated every night and morning.

Dr. Tott, a countryman of M. Autenrieth, has of late years used this remedy with very satisfactory effects. In some cases where it did not seem to agree, he mixed a certain portion of the *tannate*, previously dried, with simple ointment, (two drachms to one ounce); and he found that the sores often healed readily under the use of this cerate.—*Bulletin General.*

We can bear our testimony in favour of the good effects of this application for bed-sores.

In our own practice we have prepared it by mixing together the liquor plumbi and the common tincture of kino.—*Rev.*

MISCELLANIES.

RESULTS OF TAPPING THE HEAD IN NINETEEN CASES OF HYDROCEPHALUS. By J. T. CONQUEST, M.D., F.L.S., &c.

To the Editors of the Medico-Chirurg. Review.

Gentlemen—Nearly *ten* years having elapsed since I was first induced to attempt the cure of chronic hydrocephalus, by withdrawing the fluid from the ventricles, the time seems to have arrived when the profession has a claim on me for some account of the results of these operations; and, indeed, this has become necessary in consequence of the numerous applications for information on the subject by practitioners, not only in Britain, but in many distant parts of the world. Still it is a matter involving such important considerations, that until experience has thrown much more light upon it, I do not feel justified in advancing any thing beyond the mere statement of facts, such as the present position of my inquiries warrant, leaving to a future day a more methodical and full investigation of the origin, nature, and progress of this formidable disease, with its appropriate medical and surgical treatment.

The operation consists in passing a small and delicately-constructed trocar into one of the lateral ventricles, and drawing off so much of the fluid as the powers of the constitution will admit of. The most eligible spot at which the trocar can be introduced, is in the course of the frontal suture, about midway between the crista-galli process of the ethmoid bone, and the anterior fontanelle, so that the danger of wounding the corpus striatum is avoided, on the one hand, and the longitudinal sinus, on the other. The instrument usually penetrates about two inches, and in most cases the serum has been colourless, but occasionally tinged with blood. In one instance (and that was the last child operated on at *St. Bartholomew's*, only a few weeks since), a large and

alarming quantity of fluid blood escaped, most likely from a branch of the meningeal artery. Sometimes, on withdrawing the trocar, the water will not flow until a probe has been passed along the canula to remove portions of cerebrum which block it up. After taking away all the fluid than can be removed consistently with safety, the head which should always be steadily compressed by an assistant during the operation, may be strapped with adhesive plaster, that it may retain its diminished size, and that the fearful consequences of suddenly removing long-continued pressure from the brain may be averted.

I have now tapped in *nineteen* cases, and of these *ten* were living when last heard of. Several of the children, before the operation, were reduced to the most deplorable condition, having frequent convulsions, with loss of sight, emaciation, &c., but the diminution or disappearance of these symptoms has been very remarkable. In some cases the results have been triumphantly successful; in others, from the reluctance of the parents to have the operation repeated, only temporary relief has been afforded; but none of the children died either during or immediately after the operation; and those which in the subsequent list are reported as dead, survived weeks or months after the fluid was withdrawn.

All the operations were performed in the presence of many medical men, and most of them before large bodies of students at *St. Bartholomew's Hospital*, and their progress has been watched by gentlemen who have felt a deep interest in their termination, and although exclusive dependence has been placed on the withdrawal of the fluid, without the auxiliary assistance of any pharmaceutical or other remedial means, yet I consider much of the success is attributable to the kind and able superintendence of medical friends.

Having long entertained a conviction that this deplorable disease ought not to be left without something being done

for its relief and cure, and not discouraged by the want of success that has followed similar attempts, and considering "anceps remedium melius quam nullum;" it was in the autumn of 1828 that I performed the *first* operation, on Catharine Seager, aged twenty months, whose head had been gradually enlarging during the previous half-year. Not more than two ounces of serum flowed, but on a probe being passed into the ventricle (by M. Harvey, of Islington), at the close of the day, a considerable quantity of fluid escaped per stillicidium, so that during the night it was calculated that the saturated bandages and napkins could not contain less than two pints. Only one paroxysm of convulsions followed the operation, and some symptoms of meningeal irritation which supervened were speedily subdued by leeches and cold evaporating lotions. Two years and a half subsequently I had the high gratification, in company with some friends, to see this child, when the parents left England for America; and it was not only in perfect health of body, without the slightest evidence of its having been the subject of so formidable a disease, but in full possession of its intellectual powers.

The *second* case was that of William Honey, aged eight months. The enlargement of the head had been perceptible about six weeks, and on the 20th of November, 1829, I tapped him at *St. Bartholomew's Hospital*, and withdrew twelve ounces of colourless serum from the right ventricle. On the 2nd of December twelve ounces more were withdrawn, and on the 16th an additional ten ounces and a half, making the total quantity thirty-four ounces and a half. This child was progressing most satisfactorily, when it became the subject of hooping-cough, to which intractable disease it fell a victim some months after the last operation.

The *third* operation was performed on William Wilmar, a boy now (March 1838) under a course of education in the Orphan Working School, City-road, nearly *eight years* having elapsed since twenty-four ounces of water were taken away by twice tapping him. The history of this interesting case appeared

in the *Lancet* of September 15, 1832 by Dr. Caldwell, whose patient he was. That the account may be authenticated and impartial, the following statement is an extract from that communication: "William Wilmer, aged four months, came under my care in the month of July, 1830. His head was of an enormous size, and had been so from his birth; the forehead was large and prominent, the eyes heavy and somewhat convulsed, frequent hiccup, vomiting, &c. Several gentlemen had seen the case, and they all gave it up as hopeless. In the beginning of August Dr. Conquest performed the operation upon this child, and immediately the fluid issued forth in a stream, at first clear, and afterwards a little tinged with blood. During the remainder of the day the child continued rather weakly, but was more lively than he had ever previously been, and for some time afterwards the intensity of all the former symptoms greatly diminished.—When a month, however, had nearly elapsed, it was considered requisite to repeat the operation, and on the 3rd of September Dr. Conquest again extracted a clear liquid to the amount of twelve ounces more. The child sleeps well, eats heartily, is very lively, and is in the full enjoyment of all its mental faculties.

Signed "H.S. CALDWELL, M.D.
"Sept. 6th, 1832.

Amongst other things mentioned in the paper from which this extract is taken, is the curious fact that the head, which was enormously large at the time of the operation, remained stationary, although the size and strength of the body had gradually increased in proportion to the age of the boy, and now that nearly *eight years* have elapsed, the head, although still disproportionately large, remains at about the same dimensions.

The *fourth* case, that of Elizabeth Forster, is referred to with more than ordinary satisfaction, not only because it is the one from which the largest quantity of water was extracted (no less than *fifty-five* ounces), but more particularly because I had lost sight of the child for years, and thought it was

dead, until, in September last, I received the following most gratifying communication which I transcribe entire, as it will convey all necessary information of the case:—

“Dear Sir:—Being lately on a visit in Buckinghamshire, I was enabled, through the kindness of Mr. Cowley, of Winslow, to see the child, Elizabeth Forster, residing at Little Harwood, on whom you performed the operation for hydrocephalus about *five* years since. Her countenance and general appearance are healthy; her appetite good, and her rest at night undisturbed. She has been attending a school in the village, where her progress has been equal to that of the other children; she answered questions which I addressed to her on this and other subjects with a shrewdness for which her governess says she is remarkable. The greatest circumference of the head measures 22 inches; the ossification is complete with the exception of the posterior fontanelle, and two other openings of the same size two inches apart on either side of the medial line, in the course of the coronal suture. Her mother showed a lively sense of gratitude for the benefit which she had experienced under the treatment to which you had subjected her. Your's, &c.

“FRANCIS COOK, M.D.”

It would be useless at present to detail the particulars of the other fifteen cases, as all that is important will be found in the summary given at the end of this communication, and from which it appears that of the 19 children operated upon, 10 were living, when last heard of, and 9 are dead; but it is only fair to say that as most of these children were amongst the lower classes of society, who are continually changing

their residences, several have been lost sight of, and may now, very probably, be dead, although when last seen, some time subsequently to their having been operated upon, they were living.

Of course these operations have been attended with different degrees of success. Unquestionably some are cases of perfect recovery; but, in every instance, there has been a very marked diminution of suffering, and prolongation of life, and in no one case has a fatal termination been accelerated.

Dr. B. G. Babington has analysed the fluid with great care, and states its specific gravity to be 1004. It does not coagulate by heat, acids, and alcohol, and consequently does not contain albumen. Tincture of galls produces no immediate precipitate, but after standing some hours a few brown flocculi subside, proving that it contains a very little gelatine. On evaporation 1000 grains yield 10 grains of solid matter, chiefly chloride of soda, proved by precipitation with nitrate of silver. The liquid therefore contains in 100 parts—

Water	99.
Gelatine	0.1
Chloride of soda . .	0.845
Other salts and loss,	055
	<hr/>
	100.000

In no instance has clearly marked congenital disease been permanently benefited, and those cases have done best in which effusion manifestly resulted from inflammatory action, and in which cerebral excitement followed the operation.

The number of cases tapped, with the quantity withdrawn, will be seen in the tabular summary which concludes this brief notice of the subject,

No.	NAMES.	Number of times operated on.	Quantity with-drawn.	Living.	Dead.
			Ounces.		
1	Catharine Seager .	1	32	1	—
2	William Honey . .	3	34½	—	1
3	William Wilmer . .	2	24	1	—
4	John Hall	5	48½	—	1
5	Alfred Parman . .	4	45	—	1
6	Mary Rayon . . .	3	26	1	—
7	Charles Discomb .	2	20	—	1
8	John Ward	1	8	—	1
9	John Clauditt . .	2	22	—	1
10	Charles Clarke . .	2	17	—	1
11	Elizabeth Forster .	5	55	1	—
12	Jemima Evans . .	1	7½	—	1
13	Jane Brocken . . .	1	13	1	—
14	Eleanor Maloney .	1	9	1	—
15	Francis Chiddy . .	4	33	—	1
16	Thomas Norman . .	1	6	1	—
17	Anne Arminio . . .	3	31½	1	—
18	James Thompson .	2	14	1	—
19	John Pratt	1	9	1	—
19		44	455	10	9

I feel no ordinary pleasure in thus simply recording the progress of my investigation of this momentous and interesting subject, and shall be most happy to receive from my professional brethren any suggestions that may assist me in attempting to diminish this one source of human suffering and death.

Finsbury-square, London,
March 1st, 1838

Knowing that Dr. Conquest is pursuing his investigations on this important subject, we are happy to afford the vehicle for invitation to contributions to the author, from such practitioners as employ the means pointed out.—*Eds.*

THE MEDICAL TOPOGRAPHY OF COVE.
By D. H. SCOTT, M.D. (Dublin
Journal, March 1838.)

Hope, which never deserts the hectic breast, has explored many a spot on the surface of this globe, in search of air

and aspect that might restore the emaciated frame to flesh and plumpness—or, at all events, stave off the inevitable hour that was to sever the ties of Nature, and cut the thread of existence! How seldom these fond anticipations have been realized, the burial-grounds of Rome, Pisa, Nice, Montpellier, and fifty other health-restoring localities can mournfully tell. Still there is little doubt that many places, both on the Continent and in this country, possess great advantages over others, in cases of pulmonary affections—and happy would be the discovery of any one, within the British soil, that would supersede those places of resort in foreign countries, which few can reach, and still fewer recover in. To Hastings, Isle of Wight, Torquay, and Clifton, is now added a new asylum for pulmonary invalids on the southern shore of the Sister Isle. This is SPIKE ISLAND, at the entrance of Cove Harbour, County of Cork. Dr. Scott has given a very minute, comprehensive, and able report of its medical topography in our Dublin contemporary, and occupying fifty pages

of that journal, and this paper should be perused by all those who are in the habit of being consulted as to the removal of phthisical patients from their usual domicile. It is impossible for us to give anything like an analysis of this communication, without great injury to itself and injustice to its author; yet we cannot pass it by entirely unnoticed.

The island and its village are sheltered from the winds, and open to the cheerful rays of the sun—"the site on which the town stands describing a section of a circle, whose concavity looks southward, with a rather westerly inclination—a configuration which confers on it a degree of protection, enhanced by the visits of every ray of sunshine in colder seasons." The mean annual temperature is 51.6° —the mean dew point 46° , The mean minimum temperature falls to 46.5° —and the mean weight of the atmosphere is 29.996 inches. We shall now glance at the individual months, *January* is the coldest month—its mean maximum temperature is 46.6° —mean minimum 40.4° —general medium 43.5° . *Feb.* shews an increase of one degree of temperature, chiefly by day. The North-west wind exceeds the others in prevalence. *March*, mean temperature is 45.3° . *April* exhibits an advance of three degrees of mean temperature, viz. 48.3° . In *May*, it reaches 54.7° . The easterly exceeds the westerly winds by one-third. *June* has a medium temperature of 60.2° . And in *July*, the highest range is attained, 61.9° . The south-west winds prevail in this month, and the air damp, the dew point standing very high. The thermometrical and barometrical ranges for the remainder of the year may be anticipated by what we have here stated.

As compared with Cork, the island is 2° warmer in Winter, whilst it is cooler by one degree in Summer. The climate is, as nearly as possible, the same as Penzance in this country; but more equable. But we can only make room for the concluding page or two of Dr. Scott's memoir, while we again strongly recommend it to the attention of the profession.

"The climate, which we have endeavored

briefly to illustrate, may be classed with those of the South West of England and of France, in its effects upon disease. Than some of these places it will perhaps be more capable of application to a large number of cases, for from what has already been observed, the degree of moisture is less. To appreciate fully the advantages of a climate, a most essential part in the investigation of them is a right knowledge of the degree of watery vapour to the temperature. By this we learn what influence it will ever exert over one disease, or one form of the same disease more than another, and upon what fair grounds of success we can recommend this or that residence. The limits of this paper will not allow me to enter upon the morbid history of this place; I will therefore briefly state, and will reserve particulars for further consideration, those cases which will derive a benefit from a residence here. We must not forget that a climate is either preventive, remedial, or palliative, under the particular circumstances attending a case.

In dyspepsia, dependent upon an irritable state of the mucous membrane, this air is serviceable. In that form of it having its origin in a congested state of the vessels, or from nervous causes, little benefit will be derived; indeed it will decidedly disagree in general. Some uterine affections, as dysmenorrhœa, will derive advantage, the physical properties of the atmosphere contributing to relax the system, and promote secretion. Tone and vigour, have by the combination of sea bathing, and equability of temperature, been given to the chlorotic frame, and the strumous habit so often accompanying and characterizing that disease corrected. Of rheumatism, where we find such a susceptibility to every variation of heat and moisture, and where or course, a climate subject less than another to extreme ranges, is desirable, moreover, where the hygrometric quality contributes to give a softness and mildness, remarkable in the warmer months, I can say that many cases are benefited.

The forms of asthma, which are least likely to derive advantage, are those in which the secretion from the bronchial

membrane is copious; the opposite cases, for reasons sufficiently obvious, are those to which this climate has been applied with the most marked beneficial result. In affections of the larynx accompanied with diminished secretion, or that condition of the vessels productive of it, the action is salutary. In organic disease of the heart, in dilatation with or without hypertrophy, and morbid engagement of the aortic valves, many of the pectoral symptoms accompanying these are considerable alleviated, and particularly the symptomatic bronchial spasm. When bronchitis is not attended with copious secretion, depending upon a relaxed state of the mucous membrane, this air is serviceable. Some of the months will exercise this beneficial influence more than others; those for example in which the largest amount of moisture enters into the composition of the atmosphere, will not have the same effect as those in which the contrary occurs. The month of October has appeared to me to have a decidedly beneficial influence on even the chronic bronchitis, with rather copious expectoration, and the same result has been observed in April and March. In that deranged state of the general health, which has been so ably described by Dr. Clark, and which constitutes tubercular cachexy, a residence in the Winter and Spring will contribute to alter and amend the constitution. In the first symptoms of tubercular deposition, and before the frame and functions seem to be brought directly under the influence of the disease, the most marked benefit has been obtained.—When the disease of consumption has progressed farther, we cannot look for so decided a change, symptoms will be moderated and relieved, the health partially improved, and with much care and watchfulness, life prolonged. All cases of tubercular disease of the lungs, whether in their first, second, or third stages, receive a benefit, but in the two last it is too often transitory. When tubercular deposit has gone on so as to engage a large portion of the lung, when it is in its progress to softening, or when a cavity already exists, we cannot expect climate to work impossibilities.

Too often are patients visiting this spot in whom, while the accents of hope fall from their lips, and prospects of lengthened days are vividly painted before them, disease has made its certain progress, and every word spoken sounds the sufferer's knell, and mocks his delusive prospects. A timely removal of a patient to any favoured climate is of paramount importance, as in the early stages of disease hygienic and therapeutic measures can be more satisfactorily applied. We witness the improvement which takes place by a change of air, in every case which presents, but the constitution in many has been brought too deeply under the disease to acquire a permanent benefit. Of the influence of the climate of Cove upon such Dr. Stokes remarks,* 'Of course, as in all cases of the kind, the good effects of the climate are seen more in the temporary improvement of the health of patients, than in their final or permanent cure. Such, however, is the penalty which all places of the sort must pay for their celebrity.' We need scarcely observe how strong therefore the necessity is, whenever a change of air is requisite, to apply its preventive or remedial influence at the earliest declaration of symptoms."

BRONCHOTOMY.

A case lately occurred in the practice of Mr. Lawrence and Dr. Johnson, which presented some interesting points of practical importance. A member of the Legislature, aged 67 years, of good constitution, was suddenly attacked with what was deemed merely a common sore throat. There was some difficulty of breathing and also of deglutition, but there was very little cough or fever, and nothing was visible on inspection of the fauces. Mr. Lawrence

* "See Dr. Stocks' highly practical and valuable work on Diseases of the Chest—a work which every man must prize who values his profession, and has the benefit of his patient at heart."

prescribed some aperient medicine and a gargle. This was on a Saturday. The symptoms, however, gradually increased, and on Monday night Dr. Johnson was called into consultation, and it was agreed that laryngitis as well as pharyngitis existed, and that active means would be necessary. As much depletion, general and local, as could be safely ventured on, in a patient of 67, was employed, while calomel, in moderate but repeated doses, were administered. As the difficulty of deglutition was much complained of, a strong solution of tartrate of antimony, grs. vj. to the ounce of water—in doses of a tea-spoonful, every four or six hours, was also given. Counter-irritation, wherever there was room beyond the bites of the leeches, was sedulously employed. Notwithstanding these, and other auxiliary measures, the malady advanced with steady and equal pace. On Thursday, it was evident that the patient was rapidly sinking, and the distress of respiration was such, that laryngotomy offered the only hope of success—and if not success, a EUTHANASIA! The patient and friends immediately assented to the operation. It was performed by Mr. Lawrence, assisted by Dr. Johnson. The incision through the integuments was in a transverse direction, between the thyroid and cricoid cartilages, and there was not a tea-spoonful of blood lost, nor did the patient complain of the least pain. The moment that an opening was made into the air-passage, a strong gust of wind burst forth, and the patient breathed with the most perfect ease. By the time that the tube was introduced and properly secured, Mr. Logan fell into a profound and tranquil sleep, breathing as easy as an infant. He was placed in bed, and slept nearly an hour. He then awoke, and made signs for something to drink. He swallowed better than before the operation. But the pulse gradually flagged, and he sunk, without the least suffering, in a few hours after bronchotomy was performed.

Post-mortem Examination. The body was examined by Mr. Lawrence, Dr. Johnson, and Mr. H. J. Johnson. The epiglottis was rough, rigid, and its mu-

cous surface partially ulcerated, and what was not abraded was in a state of ramollissement. The same condition obtained in the mucous membrane lining the glottis, and the larynx, but did not extend quite so low as the wound between the thyroid and cricoid cartilages. The chief pathological feature, however, was a considerable infiltration of pus and lymph in the submucous tissue around the upper part of the larynx and also of the pharynx, by which both respiration and deglutition were greatly impeded. It is worthy of remark that on the surface of the pharynx there were one or two distinct circular pustules, exactly resembling those produced by tartrate of antimony applied to the skin. And there is every reason to believe that these were actually antimonial pustules. The difficulty of swallowing fluids in any quantity, induced the attendants to administer the antimony in the strong solution mentioned above, and as the fluid hung about the fauces, there can be little doubt that it produced pustules. This ought to be borne in mind upon future occasions, as irritation, and perhaps much mischief might ensue from the exhibition of a strong solution of tartrate of antimony. The mucous membrane of the trachea and bronchi was quite free from inflammation; and the lungs, though they seemed rather emphysematous, were otherwise sound. Thus there was nothing necessarily fatal in the state of the parts, and it may be fairly inferred that had the operation been performed 12 or 24 hours earlier the constitution might have borne up till the parts around the larynx and pharynx had returned to a healthy condition. This gentleman certainly did not die of the operation, or of any of its consequences—neither did he die of suffocation, for he breathed with perfect freedom after the bronchotomy. We have seen the operation performed several times, and in several ways; but we certainly consider the transverse section between the thyroid and cricoid cartilages, as decidedly the most easily effected, and with least embarrassment from hæmorrhage. If disease, in any case, extend beyond this point, it will

in all probability, be found to extend beyond the site of an incision into the trachea also.

THAMES IMPROVEMENT COMPANY.

Some seven or eight years ago, a friend of ours, Mr. Kendal, of Colchester, called on us with a plan of forming cess-pools along the banks of the Thames, for collecting the cloacal filth from the common-sewers, and rendering it available as manure for the gardens and grounds in the vicinity of the metropolis. This was one object—and that of a lucrative kind: the other, and perhaps the more important one, was, the supply of *pure water* to the inhabitants of London, by preventing the contamination of the river, from which a great portion of the water was procured. If our memory do not deceive us, Mr. Kendal proposed a terrace along the edge of the river, as a promenade for the inhabitants of both banks, and with the view of contributing to the health and pleasure of the London people. At the moment we looked upon the project as somewhat utopian; but as Mr. Kendal was a gentleman of independent fortune, we merely remarked jocosely, that the projector would probably get some soubriquet or nickname from the nature of the speculation, which, after all, might fail. It seems that the idea was abandoned by Mr. K. but we now observe that the matter has taken a tangible and practical turn, and that a company is actually formed for the purpose of carrying the speculation into existence. Dr. Granville seems to be the *primum mobile* of this great undertaking, and we sincerely wish it success—not so much on mercantile or pecuniary views, as those of Hygiene. Our readers are aware that we have always raised our voice against the abominations of the Thames water, even under all the purifications exercised on Primrose Hill, and most delighted would we be if the hundred cloacæ, opening their polluted mouths, and pouring forth the contents of their abominable stomachs into the Thames,

could be stopped up, and diverted into other channels. It is true that the cloacal filth (or as Dr. Granville politely designates it—*Flemish manure*) will be spread over the market gardens, and will come back to our markets in the shapes of cauliflower, tunips, asparagus, strawberries, and various other tempting vegetables and fruits; yet still the chemical and vital processes of purification and transmutation will be very far superior to the filtering operations of the West Middlesex manufacturers. Besides, the fastidious may abstain from these cloacal products, if they please, but water is so essential to life, that we cannot evade the penalty of ingurgitating poison with every fluid we take in.

Dr. Granville has taken infinite pains during his last tour on the Continent, to collect a stupendous mass of information on the subject in question, more especially as regards the towns through which rivers pass—the precautions as to the cloacæ, or rather cess-pools—and the value of manure procured from human excretions. The Doctor calculates that between three and four pounds weight of excretions, liquid and solid, may be expected from each individual, in the course of 24 hours. This calculation appears to be corroborated by a particular establishment—the barracks at Berlin—where twelve thousand soldiers are lodged—and where a particular process is established for cloacal evacuations. It appears that barrels are the receptacles and are emptied twice a day, the manure being sold to a contractor. Admitting that there are neither woman, children, nor camp-followers in the barracks to augment the cloacal deposits, we apprehend that the Berlin calculation will not apply to the Metropolis of these Isles. In the aforesaid barracks, and in the continental cess-pools generally, the *fecal matters* are deposited in receptacles air and water tight, and there preserved *undiluted by the water used in the houses*, till removed by the contractor. But let it be remembered that *here*, every evacuation is instantly washed away in a deluge of water to the common-sewer. The consequence is that more perhaps

than of half of the soil—and that the richest and most highly animalized—is dissolved as completely as opium would be, and might pass a filter without the chance of being caught. This essential difference between Continental cess-pools and British water-Closets renders, in our humble opinion, all calculations that are based on the former totally inapplicable to the latter. If the company reckon on catching one fourth of the metropolitan drainings, they are probably reckoning without their host—and what they do catch will be the least valuable because the least soluble portions of the cloacal contents.

The last, and not unimportant question is this—"can such an accumulation of human exuvæ be permitted in any one spot near the inhabitants of men, without injurious consequences?" Dr. Granville, in his report, p. 26, answers in the affirmative. This affirmation appears to rest on the fact that—"immediately outside of all the principal cities (on the Continent) there are large heaps of compost manure, and large reservoirs of the mixed, or semi-liquid matter removed from cess-pools; yet the neighbourhood has never been known to suffer the least inconvenience from that circumstance—*excepting the unpleasantness of the smell.*" p. 26. This last objection is got over by Dr. Granville, "inasmuch as he has acquired the knowledge of more than one process by which the offensive smell can be immediately corrected." *ib.* Dr. G. does not hint at any of these processes—but if they be any of those commonly in use for correcting mal-odorous effluvia, as chloide of lime, acid gases, &c. we very much doubt the *practicability* of applying such processes to the parallel drains proposed by the Company along the shores of the Thames.

The foregoing observations are thrown out as matters for consideration, and most sincerely do we hope that our fears are futile and our objections baseless. But we have seen enough to convince us that schemes fully as feasible as the collection of cloacal freightage, have proved impracticable in the end—or, if practicable, unproductive of profit. In respect to the Thames water itself, how-

ever filtered on Primrose Hill or elsewhere, we are still of opinion that the inhabitants of London are daily ingurgitating the *very essence* of cloacal, or, if you will—"Flemish manure," which no process short of distillation, even if that were sufficient, can separate!

BRONCHOCELE REMOVED BY CROTON OIL.

This effect of croton oil rests, as yet, on a single case. A native Indian, who was gutturous, became affected with laryngitis, and Dr. Campbell (of Nepal) applied a liniment to the throat, composed of one drachm of croton oil to two drachms of olive oil. A crop of pustules came out, when the aphonia and laryngitis were removed. In fifteen days more the goitre, which, however, was small, soft, and elastic, also disappeared.—*Calcutta Transactions.*

CLIMATE AND DISEASES OF SWAN RIVER. By Dr. Milligan.

Swan River district, the first settlement in that part of the country, and still the most important, occupies an area of about 50 miles by 30—the country being of the open forest description—the surface undulating—and the valley intersected by three rivers, influenced by the tides, and abounding in fish. The water, at some depth, is excellent—sparkles in the glass—cooks food—and washes linen well. During Summer, (our Winter) there are regular sea and land breezes—mornings and evenings pleasant—nights cool. The sky is quite Italian, without cloud, fog, or rain. In autumn there are atmospheric perturbations, with thunder-storms that refresh the air and mitigate the heat. In Winter the winds are boisterous, with occasional heavy rains. Snow is unknown, but hail sometimes falls. The Colony was settled in 1829, and the domiciles of the settlers were, at first, of a most wretched description, but things improved rapidly till the

Winter of 1830, when want of supplies and tremendous inundations of the rivers, spread consternation and distress followed, as usual, by diseases in the form of fever, dysentery, and scurvy, especially among the lower orders. With successive seasons the harvest became more bountiful—the flocks more numerous—and diseases less frequent. The endemics, are bronchitis, dysentery, and ophthalmia, together with a low fever which corresponds with the *gastro-enterite* of the French. The climate generally agrees with Europeans, and European animals. The annual mean temperature is from 60° to 64°. The voyage from Madras to Swan River has been performed in 25 or 30 days, and thus offers great advantages to tropical invalids. The society is good and respectable.

BITE OF A COBRA COPELLA—VENESECTION CONSIDERED AS THE CURE.

This case is related by Mr. Smith, of Madras. A robust cooly was bitten by the snake, at half-past one o'clock, and he was soon insensible, breathing quick and hurried, pulse small—pupils contracted—frothing at the mouth. A ligature was placed above the bite, (belly of the biceps,) and *two drachms* of the liquor ammoniæ in an ounce of water given immediately. Wound cauterized. In ten minutes the liq. ammoniæ was repeated, but in three quarters of an hour he was perfectly insensible, torpid and heavy—arm and hand greatly swelled. At 1: 55 he was largely bled (more than 25 ounces was taken,) by which the circulation seemed relieved. He twice vomited a green fluid. The liq. ammoniæ was repeated, with brandy. He was now apparently sinking. Another dose of the liq. ammoniæ. He then began to revive. A fourth dose of the liq. ammoniæ, with laudanum. At 2: 20, he was again sinking, and half-an ounce of liq. ammoniæ, with four ounces of brandy, was given. At 2: 30, half-an-ounce of the liq. ammoniæ with brandy. At 3 o'clock he was bled to ten or twelve ounces. We need

not pursue the details, as a great number of remedies were used—including two ounces of the liquor ammoniæ, in the course of less than two hours—a most incredible quantity—seeing that the dose is from ten to twenty minims! The man recovered, but we think it very questionable whether the venesection was even the principal therapeutical agent in this case.

LAND SCURVY.—NUSSEERABAD.

Scurvy has often broken out in besieged cities and garrisons, where food became scarce and bad, and where vegetables could not be procured; but it is rare to find it among our troops in profound peace, and where there could be little or no scarcity of provisions.

Mr. Macnab has published a paper on this subject in a recent volume of the Calcutta Transactions, which we shall briefly notice.

The senses furnished no clue to the physical agency of this intractable disease among our troops, and remedies appeared to be perfectly useless—perhaps injurious! It was attributed, and probably with justice, to some inscrutable quality of climate; though it was acknowledged that the sufferers had experienced some privations, in consequence of failure of crops the preceding year. The high prices of provisions led, of course, to frauds—perhaps to adulterations. The natives make but one enormous meal daily, and probably the digestive organs were unable to dispose of this immense cargo of rice and ghee, without detriment to the blood. For 14 years previously the troops had not suffered in this way at Nusserabad. A succession of dry seasons produce the scurvy there—even among the inhabitants. The soil is very light and sandy—and the water is saline—no jungles or exhalations. The disease commenced with the cold season—(October and November), increasing in number and severity as the cold augmented, till February, when both the weather and disease became milder. In march and April it had nearly vanished. In May

it re-appeared—and in June it exhibited the most inveterate and malignant characters. Change of air was the only remedy that seemed of much advantage. "At an early stage, change of climate invariably succeeded. The transition from disease to health took place with miraculous rapidity, though for weeks before, no perceptible amendment could be obtained, under any mode of treatment."

"The following was perhaps the more regular succession of symptoms. For the first few days the patients felt some soreness in the gums, which might be seen to push up, puffy and congested, between the incisor teeth. There was languor, and perhaps a paroxysm or two of fever, or at times regular evening accessions. Day after day, the blunt projecting edges of the gums grew more prominent, became soft, and soon assumed a spongy hæmorrhagic character; the fauces, mouth, and tongue got pallid, and the breath emitted a heavy feculent odour. Now the pulse increased in frequency steadily throughout the day; irritative fever set in. Tormenting pains were developed in the muscular portions (more rarely in the tendinous) of some one or more extremities, such as the leg, arm, or thigh; seldom in more than one member, unless when the case were of considerable aggravation. These sites became tumefied, exceedingly tense, non-elastic, and having the skin over them of a colour preternaturally dark. They were more or less diffused, sometimes occupying the whole circumference of the limb, as the leg from the knee to the ankle, which would have a shining polished appearance. Sometimes, they would only embrace a portion of the extremity, such as the calf, and then the colour would be generally darker. Vibices occasionally came out in other places, without either pain or swelling. In this state, the patient's flesh and strength wasted rapidly. The teeth, imbedded in the flabby vegetating gums, felt loose, and were unfit for the purposes of mastication. Horrid fætor now proceeded from the mouth. Despondency took active possession of the mind. There was no sleep from intense suffering, nor was

there any appetite. At this period every symptom underwent a rapid advance. Extreme exhaustion would ensue, and the unfortunate subject sink eventually, and more immediately, under dropsical effusion, (a very common result,) alvine discharges, or other terminations of utter debility."

It appears, from Mr. Macnab's account, that the medical officers of Nusserabad, entirely excluded the influence of climate or locality from the etiology of this horrible complaint. To us it seems that climate or locality was almost the sole efficient cause of the malady—and that bad provisions were only the auxiliaries. The disease is curious and interesting.

DICKSONIAN "FINISH."

Our readers will remember the outrageous charges made by Dr. Dickson against his brethren, the medical officers of the Cheltenham Hospital. After several meetings of the governors and subscribers, the offer was made to this worthy to select *himself* a committee of twelve men to investigate these charges—but no! The big bully slinks into his "imperial" den, and dares not confront those whom he vituperated! The following editorial passage from the *CHEL TENHAM CHRONICLE*, of May 31, would make any other man than Dr. Dickson swallow hemlock.

"THE CHELTENHAM DISPENSARY AND CASUALTY HOSPITAL.

A full meeting of the subscribers was held on Saturday, at which the medical officers and the annual committee were re-elected. Their past conduct was declared to have been highly satisfactory, and such as entitled them to unlimited confidence. We rejoice in this result, because justice is now dealt to all parties—to the accused, by removing from them every shade of imputed guilt—to the accuser, by loading him with the deserved odium of an unsuccessful attempt to impugn the characters of honourable men—and to the public, by disabusing it of any false impression

that may have prevailed. He, who in a letter, dated March 29th, 1838, boasted 'I demand justice, not for myself, but for the despised and oppressed poor,' has availed himself of the only pretext that ever offered—one founded too upon an obstacle which the accused themselves speedily removed out of the way—to forsake the cause of 'the despised and oppressed poor,' leaving the power of their despoilers unimpaired. Now supposing for a moment, that this person believe his charges to be true, what judgment must we form of such dastardly conduct? Here is a self-elected champion of the injured, who, after infinite boasting and bravado, suddenly leaves them to their fate, at the very time when it was in his power to make their cause triumphant. On the supposition we have just stated, such a proceeding is inconceivable; but the true reason is apparent. Falsehood is a timid thing—timid even in its daring. Yet with cautious tread it is often tempted onward by circumstances, its coward heart the while racked with disquietude. Though the evil passion—the corrupt desire—goad it forward; though the price of its iniquity lie in its path; though it be tempted by every incentive grateful to its base nature; yet does it generally fail in the hour of crisis, and fall prostrate before confronting truth."

Such is the fate which sooner or later awaits the wholesale libeller of his professional brethren!

REGULATIONS AND INSTRUCTIONS FOR THE NAVAL MEDICAL OFFICERS. Octavo, 1835.

When the Prince Regent visited the sick-berth of the *IMPREGNABLE*, at Spithead, in the year 1814, while the flag of his brother, the Duke of Clarence, was flying at the mast-head, he remarked to the Editor of this Journal, (who was surgeon of the ship), that there was a great contrast between the state of things, in the time of Roderic Random, and in the time of Dr. Johnson. And so there was indeed!

But even since 1814, the improvements in the naval medical department are scarcely less striking than between the days of Smollet and those of Nelson and St. Vincent. Leaving aside the immense amount of elementary knowledge which is now insisted on by the head of the department, as compared with that which existed in the revolutionary war, the improvements in the medicines, diet, and comforts of the sick sailor, are vast indeed. Instead of having the whole armamentum medicaminum squeezed into a wooden box in the cockpit, or at best under the half-deck or fore-castle of a ship, DISPENSARIES are now fitted up for the reception of the medicines and medical stores, and the chests are returned to the dépôts. We observe that the pursers of all ships on foreign service are supplied with preserved meats to be issued *gratuitously*, in quantities varying from two to six ounces per man per diem, when on the sick list. But a striking feature of modern improvement in naval medicine is the establishment of "SICK-MESSES," under the superintendence of the surgeon, partly from funds supplied by Government, when the ship is first fitted out, and afterwards by stoppages from the rations of those who are sick. The king's allowance varies from sixteen to five pounds for the first establishment of the mess, according to the size of the ship. From these stoppages, of which an accurate account is kept by purser and surgeon, the greatest comforts, and even delicacies are procured for the inhabitants of the sick-berth. This is a prodigious improvement on the olden time, when the sick or wounded sailor was dependent on the crumbs which fell from the tables of the captain and officers.

The Physician-general deserves the utmost praise for the improvements also which he has effected in the naval medical journals. The navy surgeon is obliged to make a regular nosological return—monthly at home, quarterly abroad—of the state of the sick, in a form extremely well devised, with sub-joined remarks embracing a full and comprehensive account of the several diseases, the state of the weather and

climate, and every other circumstance bearing on health or sickness in the ship or fleet. Independent of this an annual journal of his practice is regularly transmitted to head-quarters.

The naval surgeon on foreign stations is enjoined, as far as is practicable, to extend his observations to diseases on shore—the peculiarities of climate, the indigenous medicinal plants, to every thing that conduces to our knowledge of medical topography. The medicines are now ample in quantity, and the list contains every article in the Pharmacopœia that can be at all necessary—many more indeed than are employed by private practitioners, who are in the most extensive exercise of their profession. We have reason to believe that Sir William Burnett is exerting himself for the benefit of the naval assistant surgeons, both as respects their messes and their half-pay—subjects still of much grievance among that meritorious class of officers. We hope he will be successful.

ANIMAL MAGNETISM AGAIN.

We have devoted much, perhaps too much, space, to this most abominable piece of humbug. We hear that some members of our profession are from credulousness and weakness lending themselves to the propagation of the tom-foolery. We advise them to beware. The public are now gaping open-mouthed at the mountebank exhibitions that are going on, but common sense will resume its sway, and the doctors who have figured upon this occasion will find that their credulity will not be forgotten. The opinions of men of sense out of the profession even, at this moment, may be gathered from the following quotations from the Athenæum.

"The practitioners of medicine, it is true, are, for obvious reasons, more ad-


vantageously placed than others, for forming independent judgments, and, as far as that is concerned, perhaps may, *ceteris paribus*, think more soundly: but that they are professionally better logicians, more accurate appreciators of evidence, more capable of taking account of what passes in their own mind, and of separating the impressions of their senses, from the false judgments, prejudices, and inferences which become amalgamated with them at the instant of their reception, is by no means so clear."

"Not, however, to dwell upon the capabilities for reasoning exhibited by medical men, it is sufficient to appeal to the cases which they daily and almost hourly put forth with such eager confidence, announcing striking and multiplied cures, performed by certain drugs or therapeutic processes,—which drugs and processes, after a brief but extensive popularity, are abandoned as fallacious, and consigned to oblivion—and we must rest satisfied that men so circumstanced, if not pre-eminently the dupes of their own senses, are at least quite as liable to see more or less than the truth in the subjects of their observation, as others of less repute and authority."

"Besides,—we trust the credulous will forgive us for our heterodoxy,—there are, we are satisfied, many paper-headed coxcombs, many who 'will as tenderly be led by the nose as asses are,'—aye, (numbers for numbers,) fully as many in the learned professions as out of them: and we are moreover 'inclined to be of opinion,' that a fool's head is as much a fool's head when enveloped in a doctor's bonnet as when defended by a simple thrum night cap. When, therefore, we hear of Doctor this or Doctor the other being decidedly convinced of this startling novelty, a stanch advocate for that marvellous discovery, we think the odds are rather against the discrimination of the said doctors, than in favour of the miracle."

BIBLIOGRAPHICAL RECORD.

1. The Substance of Two Lectures upon the Arguments to be derived from the Physical Organization and Moral Constitution of Man, in proof of his Religious Obligations. By WILLIAM BREWER, M.D. Svo, pp. 54. Highley, 1838.


 *A very good medico-theological discourse, well adapted for a popular audience.*

2. An Essay on Children, and that Disease designated Mesenteric Obstruction, Atrophy, or Marasmus, adapted partly for Parents, &c. By A. L. PEARCE, Surgeon. Duodecimo, pp. 225. Sherwood and Co. 1838.


3. A History of British Reptiles. By THOMAS BELL, F.R.S. Illustrated by Woodcuts of each Species. Part I. price 2s. 6d. Van Voorst, Paternoster Row. 1838.

4. On the Reform of Criminals and Prisons. Octavo, pp. 20. Sewed. V. and R. Stevens, Bell-yard, Lincoln's-Inn.

5. Regulations and Instructions for the Medical Officers of His Majesty's Fleet. London, 1835.


 *We have noticed these excellent instructions in another department of the Journal.*

6. The Medical Examiner. Nos. 1, 2, 3, 4. Jan. 3d to Feb. 14th, 1838. Edited by Drs. BIDDLE and CLYMER. Published twice a month in Philadelphia, by J. G. Anner. Each number contains 16 pages, in double columns.

 *We have noticed this new periodical in the body of the Journal.*

7. Velpeau's Anatomy of Regions. Translated from the French. By HENRY HANCOCK, Lecturer on Practical and Surgical Anatomy at the Westminster Hospital School, &c. Octavo, pp. 570. Longman and Co. 1838.

8. Medical Portrait Gallery. Biographical Memoirs of the most celebrated Physicians, Surgeons, &c. who have contributed to the advancement of Medical Science. By T. J. PETTIGREW, F.R.S. &c. Part the Second, price 3s. To be continued monthly.

 *This part contains portraits and memoirs of Ruysch, Haller, and Sir A. Carlisle.*

9. Elementa Præceos Medicæ; or a Manual of the Practice of Medicine, for the Use of Students and Junior Practitioners, By D. SPILLAN, M.D. 32mo. Renshaw. Price one Shilling. 1838.

10. Dr. SPILLAN's Medical Formulæ, 32mo. Price one Shilling. Renshaw, 1838.

11. A Practical Treatise on Fractures. Illustrated with Sixty Woodcuts. By EDWARD F. LONSDALE, Surgeon, Demonstrator of Anatomy at the Middlesex Hospital School of Medicine, &c. Octavo, pp. 536. Churchill, London, 1838.


12. Gu's Hospital Reports, No. VI. April, 1838. Highly, London.

13. Hints on Animal Magnetism, addressed to the Medical Profession in Great Britain. By J. C. COLEQUHOUN, Esq. Advocate. Octavo, pp. 48. Ed. 1838.

14. The Nature and Treatment of Diseases of the Ear. By Dr. WILLIAM KRAMER. Translated from the Second Edition of the German, with the latest Improvements of the Author. By JAMES RESDON BENNETT, M.D. Octavo, pp. 306. Longman & Co. London, 1838.

15. On the Treatment of Cataract without Operation, at the Royal Ophthalmic Hospital, Moorfields, under the Auspices of Mr. Tyrell. By LOUIS FRANCOIS GUNDET, M.D. Highley, Fleet Street, 1838

16. The Medico-Chirurgical Pharmacopœia; or a Conspectus of the best prescriptions in Medicine, Surgery, Obstetrics, and Infantile Medicine; with a Table of Doses of all Medicines in use—the Additions in the London Pharmacopœia, &c. &c. By MICHAEL RYAN, M.D. &c. Lecturer on Medicine, &c. Duodecimo, pp. 327. Churchill, London, 1838.

 *There is a vast mass of information collected into close compass in this little work. Though some of the subjects do not appear to harmonize with one another, yet*

hey are all useful at the bedside of sickness, or in the short hour of leisure from professional toils and anxieties.

17. Remarks on Dr. Handyside's Case of Suicide. By JOHN ROSE CORMACK, M.D. Pp. 16 Carfrae, Ed. 1838.

18 A Manual of British Botany; in which the Orders and Genera are arranged and described according to the natural System of DE CANDOLIE; with a Series of Analytical Tables for the Assistance of the Student in the Examination of the Plants indigenous to Great Britain, &c. By D. MACREIGHT, M.D., F.R.C.P. Lecturer on Materia Medica and Therapeutics, &c. &c. Octavo, pp. 206. Churchill, April, 1838. Price 7s. 6d.

There is a prodigious mass of elementary matter and useful information in this pocket volume.

19. Aphorisms on natural and difficult Labours, Puerperal Diseases, and on the Management of Infants. (SECOND EDITION.) By MICHAEL RYAN, M.D. In a duodecimo, pp. 128, with copious Index. Churchill, 1838, price 2s.

Dr. Ryan observes that "this little work is arranged as a pocket companion for the use of students and junior practitioners. It is only intended for the obstetric chamber, and not for the minute study of the important branch of surgery of which it treats." In this respect it is certainly a valuable VADE MECUM.

20. The India Journal of Medical and Physical Science. Edited by F. CORBYN, Esq. Nos. IX. X. XI. and XII. Calcutta, 1837.

21. The India Review, and Journal of Foreign Science and the Arts. Edited by FRED. CORBIN, Esq. Nos. 18, 19, & 20. Calcutta, 1837.

22. A letter addressed to the Gentlemen of the Medical Profession on the Nature and Properties of the Albuminous Chalybeate Water at Sand Rocks, in the Isle of Wight. By T. L. WATERWORTH, Surgeon. Octavo, sewed, pp. 28. Newport, 1833.

23. Experiments and Observations on the Gastric Juice and the Physiology of Digestion. By W. BEAUMONT, MD. Reprinted from the Plattsburgh Edition, with

Notes. By AND. COOMBS, M.D. Edinb. 1838. Pp. 19. Price 7s.

24. The Quarterly Journal of the Calcutta Medical and Physical Society. Nos. 3 and 4. Edited by Drs. GOODEVE and O'SHAUGHNESSY. July and December, 1837.—*In exchange.*

25. A Series of Anatomical Sketches and Diagrams, with Descriptions and References. By THOMAS WORMALD, Assistant Surgeon and Demonstrator of Anatomy at St. Bartholomew's Hospital, and ANDREW MELLVILLE M'WHINNIE, Teacher of Practical Anatomy at Bartholomew's Hospital. Part I. Price 4s. Quarto, pp. 16, with 5 plates. Highley, April, 1838.

26. A History of British Birds. By W. YARREL, F.L.S. Illustrated by a Woodcut of each Species, and numerous Vignettes. Part VI. price 2s. 6d. Van Voorst, Paternoster Row, May 1, 1838.

This is a remarkably good part.

27. Buxton and its Waters; an Analytical Account of their Medicinal Properties and General Effects. By W. H. ROBERTSON, M.D. Physician to the Buxton Bath Charity. Duodecimo, pp. 147. Charles Tilt, Fleet Street, 1838.

28. A Series of Anatomical Plates, in lithography, &c. By JONES QUAIN, M.D., and W. J. ERASMUS WILSON. Fasciculi 47-8-9. Price 2s. each. March, April, May, 1838.

29 Phrenology Vindicated, in a series of Remarks, Physiological, Moral, and Critical, on Article VII of the November number of the "CHRISTIAN Examiner," headed "Pretensions of Phrenology examined." By CHARLES CALDWELL, M.D. 8vo. pp. 93. Lexington.

This is the most lacerating scourge that has ever been applied to the backs of anti-phrenological bigots, fanatics, and hypocrites.

30. Remarks on the Influence of Mental Cultivation and Mental Excitement upon Health. By AMARIAM BRIGHAM, M.D. Second Edition. Boston, 1833.

31. Observations on the Influence of Religion upon Health and Physical Welfare

ankind. By AMARIAH BRIGHAM, M.D. Boston, 1835.

**** We are sorry we did not receive these little works sooner; but we hope to notice at least the latter of them in our next number.*

32. The Article on Insanity in the 94th Number of the North American Review, for January 1837. By the REVIEWER.

**** This is a very clever article, and we suspect it is from the pen of Dr. Brigham.*

33. On the Improvement of Medicine. The Oration delivered before the Medical Society of London, March 8, 1838. By THEOPHILUS THOMPSON, M.D.

**** A very creditable production.*

34. Outlines of Human Physiology; designed for the use of the higher classes in common schools. By GEORGE HAYWARD, M.D. Professor of Surgery and Clinical Surgery in Harvard University.

**** This essay is conveyed in simple language and is well adapted for the readers to whom it is addressed.*

35. On the Use and Abuse of the Pessary. By J. T. SHARPLESS, M.D. of Philadelphia. 8vo. pp. 12.

36. The Medical Examiner. Nos. 1 to 9 inclusive. Philadelphia 1838. In exchange.

**** Liverpool will be an inconvenient channel. Packets are put into the Post Office there, and come to town with from 3 to 10 pounds sterling postage! We are consequently obliged to refuse them. The Examiner came thus, but, from courtesy, was afterwards delivered to us free of expense. We shall reciprocate through a private channel, the first opportunity.*

37. A Practical Compendium of the Materia Medica; with numerous formulæ adapted to the treatment of the Diseases of Infancy and Childhood. By ALEX. URE, M.D. M.R.C.S. London. Duodecimo,

pp. 240. Schloss, Great Russel Street, price 6s.

**** There is much novelty in this plan, which is taken from a German model (Frankel's,) but embodies a large mass of useful and practical observations from some of our best Authors.*

38. The Physiognomy of Mental Diseases. By ALEX. MORRISON, M.D. Nos. 1 and 2, with plates, price 3s. 6d. each. Highley, 1838.

**** This is a work which cannot be reviewed. But it is worthy of praise.*

39. A Dictionary of Practical Medicine, &c. By JAMES COPLAND, M.D. Part 5, price four shillings. Longmans, 1838.

40. Practical and Experimental Chemistry, adapted to Arts and Manufactures. By E. MITCHERLICH, Professor of Chemistry in the University of Berlin. Translated from the first portion of his Compendium. By STEPHEN LOVE HAMMICK, M.D., Fellow of the Royal College of Physicians, and one of the Radcliffe Travelling Fellows of the University of Oxford. 12mo. pp. 316, London, 1838.

**** Dr. Hammick, the translator of Mitcherlich, is a gentleman of considerable attainments, and well qualified in every way to do justice to his author. He has taken great pains with his translation, and it is remarkably well executed. We recommend the work to the lovers of practical chemistry. It will be a valuable addition to the library and the laboratory.*

41. Des Maladies Mentales, considérées sous le Rapports Medical, Hygienique, et Medico-legal. Par E. ESQUIROL. Accompagnées de 27 Planches Gravées. Deux Tomes, 8vo. pp. 678—864. Paris. 1838.

**** In our next.*

42. An Introduction to the Study of Animal Magnetism. By the Baron DUPOTET DE SENNEVOY. With an Appendix containing Reports of British Practitioners in favour of the Science. 12mo. pp. 388. London, 1838.

EXTRA-LIMITES.

HOSPITAL REPORTS.

I.

ACCOUNT OF SOME REMARKABLE CASES OF DROPSY, WITH THE NECROSCOPIC APPEARANCES. - By Sir DAVID J. H. DICKSON. M.D. F.R.S.E. F.L.S. Physician of the Royal Hospital, Plymouth.

1st. *Thomas Smith*, æt. 31, R.M. of a sallow emaciated appearance, was a case of ascites; and very remarkable for the suddenness and rapidity of the effusion; and the speediness of its re-accumulation after tapping.

The swelling of the abdomen took place in one night, while he was on shore, on leave, from H. M. S. Royal Adelaide, and was, at first, supposed to arise from tympanitis (which is occasionally prelusive, as well as contemporaneous with dropsy), but it increased so rapidly, that on the fifth day it was necessary to have recourse to *paracentesis abdominis*; and between the period of his admission, on the 22nd January, and of his death, on the 19th July, 1837, this operation was repeated fourteen times. The following are the dates, and the pints of fluid (which, when tried, coagulated by heat) removed by each abstraction: viz. on the 27th January, 13lbs.; 8th February, 12lbs.; 16th February, 13lbs.; 5th March, 18lbs.; 19th March, 20lbs.; 7th April, 20lbs.; 23d April, 23lbs.; 9th May, 26lbs.; 19th May, 26lbs.; 27th May, 24lbs.; 7th June, 24lbs.; 16th June, 17lbs.; 30th June, 22lbs., and 11th July, 20lbs.; amounting altogether, to 278 pints; besides a very large quantity of fluid which escaped from the non-adhesion of the lips of the wound, after several of these operations. The renal secretion generally became pretty free afterwards; but decreased as the abdomen again enlarged; and it was almost suspended previously to the tapplings; all of which he bore extremely well, except the last; after which the urine became very scanty, and dark, with much brick, or rush-coloured sediment; and he frequently vomited a brown, and ultimately a black coloured fluid before death, resembling *melæna*.

* *Sectio cadaveris*, 31 hours P.M.—The body was withered, and sallow. The lungs were healthy; but adherent to the costal pleura, on the left side. The heart was twice its natural size, and the ventricles, especially the right, enlarged; but there was very little fluid in the pericardium. The abdomen contained several pints of serum of a deep yellow colour; though much had drained off through the last puncture. The great omentum, from the pressure of the fluid beneath, was, as it were, folded back, and adhered firmly to the diaphragm; and the peritoneum generally, was of a red, mottled colour; and its reflexions covering the small intestines, especially where they sink into the pelvis, and at the sigmoid flexure of the colon, were coated with a mixture of coagulable lymph, and pus. The liver was much indurated; and though it appeared to be shrunk *in situ*, was larger and heavier than natural, lobulated, and internally very pale, with a light yellow tinge, and its peritoneal tunic had a spotted, cribriform appearance, like the *membrana* closing the *foramen ovale*, and was of a semi-opaque, yellowish-white, colour; dappled with purplish tints. The gall-bladder contained some thick, tar-like bile. The spleen was greatly enlarged, and much firmer than natural; and several of its arteries were ossified; which gave it, when cut, a gritty feeling. The stomach contained a fluid like soot and water;

but its mucous coat, though soft, and that of the intestines were not, otherwise, changed. The kidneys were rather large and congested. A clot of blood, the size of a nut, covered with an evidently organized membrane, adhered to the side of the last puncture made by *paracentesis*.

2nd *James Revitt*, seaman, æt. 44, was a still more remarkable case, from presenting a combination of, what might be called, antagonist disorders; for he was affected with dysentery, diabetes, and dropsy at the same time. He was admitted with severe dysentery, passing blood and matter, with mucous dejections. On the 18th February dropsy of the belly and limbs supervened; and, moreover, a diabetic flow of urine, amounting, at one period, to two or even three pots full of water, during the night. In this very extraordinary case the dropsical swelling of the limbs, scrotum, &c. assumed at one time, an intermittent character, if I may use the expression, by which I mean that, independently of position, the anasarca considerably increased and diminished; being much greater, not only on one day than another, but at different hours of the same day, which the patient attributed to the pumping, as he called it, or the violent straining by stool, and vomiting. But notwithstanding the quantity of fluid thrown off by these discharges, and which apparently exceeded the proportion swallowed, the serous infiltration of the limbs became so enormous, that on the 23rd July it was deemed necessary to make several punctures on the outside of the legs, below the knees; by the profuse discharge from which, he, for a time, experienced great relief. The dysenteric purging, however, continued unrestrained, by the most powerful astringents and opiates including nitrate of silver, sulphates of zinc and copper, &c.: the vomiting became more frequent; and, at last, the colour of soot; and to add to his misery, for a week before his death on the 10th August, the patient experienced the most distressing dysphagia; so that, at last, neither drink nor medicine could be swallowed; yet notwithstanding this complication of maladies, the extent of structural disease was found to be much less, *post mortem*, than had been anticipated. The occurrence of inordinate actions, through the influence of the nervous system, on different organs and structures, not only consecutively but simultaneously, and in the latter cases producing, if I may so speak, antagonist functional excesses, according to the action, and reaction of various morbid sympathies, was here exemplified in a most extraordinary manner, and would afford a wide field for speculation "*sed hypotheses non fingo*." I shall proceed, simply, to detail the morbid appearances on dissection.

Sectio cadaveris, 14 hours P.M.—The cellular tissue, especially of the lower extremities, was loaded with serous infiltration; the thoracic organs were healthy. The abdominal cavity contained several quarts of fluid, but the peritoneum exhibited scarcely any change. The liver was normal in structure; and the spleen of the natural size; but some of the arteries had begun to be slightly ossified. The kidneys were much enlarged; and about twice their natural weight, while their internal structure looked paler than natural, and as if a fatty matter were deposited in their cortical substance. The whole alimentary canal, from the pharynx to the anus, was removed, and examined, but no organic lesion was discovered, to account for the severe fuliginous vomiting, and distressing dysphagia which had preceded death. The dysphagia seemed to have been spasmodic: for neither stricture of the upper part of the tube, nor any alteration of the mucous surface of the stomach, nor intestinal canal could be detected, until approximating the ileo-cæcal valve, where it became dark-coloured, and deeply and extensively ulcerated. These discolourations appeared in large patches of a leaden hue; and seemed to arise from the mucous and submucous tissues being impregnated with a carbonaceous matter, resembling *melanoma*: and they became darker, and the coats more diseased as they approached the extremity of the canal: where portions of its inner surface had assumed a blue-black colour, and felt rough, or gritty, and thickened, from the *melanotic* deposit. I have said

"resembling"—for whether this was an example of real melanosis, depending on the formation of a morbid product of secretion,—or, more probably, spurious, arising from the black discolouration of blood, from stagnation in the venous capillaries: or from chemical agency, I shall not take upon myself to decide; but a similar instance (amongst others) is adduced by Dr. Carswell, when in severe chronic dysentery, the mucous and submucous coats were greatly thickened, and eroded; and the blood, poured into the cavity of the intestines, was converted into a black fluid, resembling liquid pitch; and the ulcers themselves were impregnated with blood similarly altered.

3rd. *John Tessimand*, R. M. æt. 22, was admitted from the Spanish battalion, on the 11th June, and presented a combination of acites and hydro and pneumothorax. The symptoms were abdominal swelling, and tenderness arising from partial effusion and accretion. Great dyspnœa, and excessive action of the heart, which was forced quite over to the opposite side; so that its pulsations were distinctly seen and felt, not only under the right nipple, but all over the right side of the chest and back. He could sleep only on the left side; and, latterly, required to be almost erect. The lips became more livid, and the dyspnœa, at last, so urgent, that on the morning of the 11th, August, he appeared to be in a state of apnoxya, and moribund, when *paracentesis thoracis* was performed at seven a. m., and thirteen pints of water were abstracted from the left cavity of the pleura. He experienced the greatest relief from the operation. The flow of urine increased, the heart gradually receded from its unnatural position, and he continued to improve until the 28th, after which the dyspnœa, and all the symptoms progressively increased; but no further operation could be attempted, and he died on the 5th of September.

Section Cadaveris, twenty-six hours p.m. On opening the thorax a quantity of gas escaped from the left cavity of the pleura; which was coated with yellow lymph; and the lung was bound to the mediastinum, by a layer of false membrane. The upper lobe was tuberculated, and much congested throughout. The right pleural sac contained several pints of fluid. The lung was healthy, but compressed into the upper part of the cavity by the serous effusion; and the pleura was thickened, and appeared, from a coating of lymph, as if covered with fine gauze. The pericardium contained four ounces of clear serum; but the heart, though rather large, was normal. The structure of the liver was soft; rather pale, and as if infiltrated with a watery fluid, which exuded on pressure; it adhered to the diaphragm: and the different viscera to each other; and to the abdominal parietes. The large intestines were tympanitic, and their serous tunic mottled, with numerous little spots, or granules of lymph origin. The spleen and gall-bladder were normal. A slight effusion had taken place under the arachnoid membrane, which was rather opaque, and a little thickened. The brain was firm, and healthy in structure; but the cerebellum was very soft; and a portion of serum flowed from the vertebral canal. I do not mean to enter into any detail upon the treatment of dropsy, which must be ever modified by the nature of the structure, and of the lesion of the organ obstructed, or congested; but, generally speaking, though not always, I have found it is necessary slightly to affect the mouth with mercury, before the due effect of other remedies, as diuretics, &c. could be obtained; and particularly when the liver is implicated:—but, while upon this subject, and without any reference to dropsy particularly, when it is oftener affected, I beg to observe, that, whatever may be said of its functional derangements, the liver is found to be much less frequently diseased, in our *post mortem* investigations, than from the writings of authors we should be led to expect. Indeed it may be stated, on the contrary, and although we are constantly receiving invalids from abroad, in all stages of thoracic and abdominal disease, the organic disease of the liver, comparatively speaking, is a rare occurrence.

With respect to the treatment of these cases: in that of *Smith*, great benefit was derived from hydrogogues, as croton oil, jalapine with colocynth, mercurial, and other purgatives; carminatives, calomel, or blue-pill and squills, with opium, or henbane, &c. digitalis, and other diabetic medicines, and drinks; such as the decoction of pyrola, with juniper, and bitartrate of potass. An infusion, in ale, of broom-tops, wild-carrot and mustard-seeds, weak gin punch, &c., a large draught of the latter, tepid, or of lemonade with a little spirit, and twenty-five, thirty, or more minims of the *liquor opii*—or, the muriate or other preparations of morphia, given in the forenoon, has been often followed by a free discharge of urine; when an opiate given at bed-time, excited *pervigilium*; and I may also remark, that when it has this exciting effect upon the sensorium, I have frequently given an anodyne draught in the morning instead of the evening, with advantage in cases of phthisis.

The pyrola I have often found useful in increasing the renal secretion, but sometimes inert, unless assisted by other means: which, indeed, is frequently the case with other diuretics. In the Second Case (*Previtt*) the treatment was rendered extremely difficult by the contra-indications, and the gastro-enteric irritability, and was, in a great measure limited to the vegetable and mineral astringents and sudorifics, as Dover's powders, and other forms of opium, in powerful doses, for iodine, mercury, &c. even by enunction, could not be tolerated.

The treatment of the Third Case was similar to that of the first except that purgatives were less freely, and anodyne and pectorals with the æthers, &c. more liberally administered. Elaterium, which is so powerful in reducing dropsical swellings, and gamboge, &c. were too sickening and drastic in these cases.

When I reported these instances to the physician-general of the navy, about six months ago, I stated that there were three other hydropic cases, then convalescent in this hospital; and in one of these at least, that I did not believe the relief could be of long duration; as it was complicated with asthma and other symptoms of organic disease. I however heard, lately, that he continued as well as when he was discharged. The others were dismissed cured; but with the caution that the disease would be liable to return from exposure to cold. One of them called upon me, sometime ago, for a prescription for a swelling of the face, from this cause; but it had not, then, extended to the extremities. The other resisted my wishes to be invalided; as I was convinced he was unfit to keep a night watch in Winter; and he, accordingly, was re-admitted on the 12th of January, affected with bronchitis, and general anasarca, but with so much irritability of the stomach and bowels, as to preclude the remedies most powerful in producing detumescence. Puncturing effectually removed the enormous swelling of the limbs, &c., but the relief was very transient. The stomach rejected every thing; and he died on the 3rd February.

Dissection revealed strong pleural adhesions, and much pulmonary, and bronchial congestion, and disease; but the abdominal viscera were nearly normal; with the exception of the kidneys, the cortical substance of which exhibited the degeneration of structure described by Dr. Bright; being indurated, and slightly granular, with great vascularity of the tubular portions, and papillæ, which appeared in red, isolated spots, on a brownish yellow ground. A very correct drawing of this morbid alteration has been taken by my first assistant, Mr. Weale, resembling the second figures in Plates 1st and 2nd of Dr. Bright's work. And I may, here, notice a still finer specimen of renal disease, in a patient, who had been a hard-drinker, admitted in the last stage of phthisis, and also with anasarca, though he made a large quantity of water. In this case the kidneys were found to be enormously enlarged: the right weighing thirteen, the left fifteen ounces. They were so much altered, as scarcely to retain any traces of their original structure; the cortical part being

changed into a dull, white substance of semicartilaginous firmness; while the tubuli and papillæ were of a deep red colour, and the emulgent arteries were much dilated. I have already mentioned that I have generally found it necessary, at least slightly, to affect the mouth with mercury, before I could succeed in restoring the secretions and the action of the absorbents. I am aware that this opinion is not exactly in accordance with that of the last named, and other able physicians, who are averse to its exhibition in many cases, especially those with albuminous urine; but while I only state the result of my own experience, without entering further into the question, I readily admit that there are certain habits, and states of renal, and other forms of dropsy dependent on irremediable organic disease, in which, as in the case just alluded to, even the moderate administration of mercury would not only be useless but highly injurious. Upon the whole, the treatment of dropsy in this hospital has been very successful; but, I do not mean to say that such cases will be, frequently, permanent.

Indeed I do not except to meet with another case, similar to that of Lieut. Gahan, who has perfectly recovered, after having been twelve times tapped in 1833, as noticed in the numbers of the "Medico Chirurgical Review" for January and July 1834. I saw that officer, who brought a patient to the hospital, so lately as the 3d of December last. He had become rather corpulent; but continued in perfect health; although he had been arduously employed for several Winters, on the coast guard, and revenue service.

Royal Hospital, Plymouth,
7th March, 1838.

DAVID J. H. DICKSON.

II.

SURGICAL REPORT OF THE DUMFRIES AND GALLOWAY ROYAL INFIRMARY, FOR THE YEAR 1836—37.

ACCORDING to the practice of this hospital, for a long series of years, the Report embraces the period between 11th November, 1836, and 10th November, 1837. On the former date there remained on the books under treatment 23 surgical cases, and since then there have been admitted 207, making a total of 229. The daily average under treatment was $27\frac{1}{2}$.

In drawing up the following list, the average period of residence in the house, of each class of diseases, is struck from those cases only which terminated in recovery, and the average residence for all the cases cured was $44\frac{1}{6}\frac{5}{8}$ days; this differs little from the average residence of every patient, whether cured or not, which was 46 days. The high average residence is to be attributed to the unavoidably protracted treatment in the cases of favus, necrosis, morbus coxarius, chronic impetigo, excema inveterata, cataract and burn. Of the whole number of cases there have been 161 cured; 6 relieved; 12 dead; 26 dismissed for other reasons; and 24 remain under treatment. From this it will be observed that the rate of mortality was 1 in $19\frac{1}{2}$, or rather more than 5 per cent. The whole amount of expenditure, divided by the number of patients admitted, gives £2. 4s. 4d. as the average sum which each patient costs the Establishment; and, if the sum be divided by the number of beds constantly occupied throughout the year, it will give £21. 15s. 6d. as the expence of each bed. But, if the expenditure be limited to the cost of provisions, medicines, wines, fuel, and miscellaneous charges, divided in the same manner, it will give for the first £1. 7s. 2d., and for the last £13. 7s., as the average sum which they have respectively cost. And, if the expenditure be further limited to the expense of salaries, servants' wages, and surgical instruments alone, it will be for each patient 10s. 5d. and for each bed £5. 2s. 11d.

NAME OF DISEASE.								Discharged for other reasons.
	Male.	Female.	Average Age.	Average Number of Days in Hours	Cured	Relieved.	Remains	
Abdomen, diseases of								
Fistula, Intestinal		1	16					1 Incurable.
Hernia, Femoral		1	75				1	
Ditto, Inguinal	1		30	1	1			
Abscess, acute	5	6	23	18	11			
Arm Drop	1		14	112	1			
Blood Vessels, diseases of.								
Absorbents, inflammation of	2		17	29	2			
Phlebitis, Chronic		2	31	8	2			
Popliteal Aneurysm (false)	1		30				1	
Wound of Ulnar Artery	1		32	30	1			
Bones, diseases and injuries of.								
Caries	2	1	70			1		1 1 with advice.
Inflammation of	1		70	42	1			
Morbid Growth of		1	25	28	1			
Necrosis	4	1	12	21	1		2	2 with advice.
Periostitis	1	4	21	50	5			
Fractures.								
Compound of Cranium*	1		19					1 by desire.
Ditto of Humerus	1		9	30	1			
Ditto of Condyles of ditto		1	18	41	1			
Ditto of Phalanges of Hands	1		57	55	1			
Simple of Fibula	1		21	29	1			
Ditto Fore-arm (both bones)	1		16	17	1			
Ditto ditto (radius)	1		34	18	1			
Ditto Malleolus Internus	1		22	26	1			
Ditto Patella (transverse)	1		40	45	1			
Ditto Ribs	1		66	18	1			
Ditto Sternum	1		55	30	1			
Ditto Thigh-bone, Neck and Trochanter of		1	74				1	
Ditto Vertebra, 6th Cervical	1		32				1	
With Wound Tibia	1		57	49	1			
Spine, Curvature of.								
Forwards		1	18	63	1			
Lateral		1	14	36	1			
Abscess, Lumbar		1	41					1 incurable.
Eye, diseases of.								
Amaurosis	1		38			1		
Cataract (double).		2	29	129	1		1	
Conitis and Conjunctivitis	1		16	10	1			
Leucoma	1		21			1		
External Injuries.								
Bruises	3	1	44	19	4			
Burns and Scalds	2	3	29				1	2 irregular.
Frost Bite	1		19	28	1			
Wounds, incised	1		52	20				
Lacerated	3	1	41	73	4			
Ditto and Tetanus	1		27				1	
Feigning Disease	1		19	44	1			

* This patient has been trephined and was almost well, but we understand he died some time afterwards in consequence of fungus cerebri.

Joints, Diseases and Injuries of.									
Anchylosis of Elbow	1	21							1 Incurable.
Ditto of Shoulder	1	34							1 ditto.
Cartilages, Inflammation of		1	44	1					
Ditto, Ulceration of	1	122	40	1					1 by desire.
Hydrops Articulii	6	126	19	7					
Ligaments, Inflammation of		143	24	1					
Morbus Coxarius	3	14							
Synovial Membrane, gelatinous degeneration of	1	125					1		2 by desire.
Dislocation of Humerus forwards	1	132	2	2					2 by desire.
Sprains	2	131	35	2					
Nervous System, diseases of									
Painful Tubercle on Spermatic Cord	1	39				1			
Paraplegia*	1	30							1 by desire.
Pelvis, Diseases and Injuries of.									
Fistula in Ano	1	22	18	1					
Ditto in Perineo, with Stricture	2	60	47	1		1			
Spasmodic Stricture of Sphincter Ani	1	55	55	1					
Hemorrhoids	1	121	17	2					
Hernia Humoralis	2	40	42	1			1		
Hydrocele	4	57	35	4					
Mucous Membrane of Bladder, Chronic Inflammation of	3	23	43	2					1 irregular.
Prostate, Enlargement of	3	65				2			1 by desire.
Sarcocoele	1	29	124	1					
Urethra, Stricture of	1	27	145	1					
Scrofula	3	21							3 with advice.
Sibbens	3	722	28	8					2 irregular.
Skin, Diseases of.									
Carbuncle	1	40	39	1					
Erysipelas, Thecal	2	42	28	1			1		
Excema Inveterata	1	19				1			
Favus	3	13	165	3			3		
Impetigo, Chronic	1	14	69	1			1		
Morbid Growth of Skin	1	17	111	1					
Onychia	1	30					1		
Paronychia	1	25	21	1					
Psoriasis	1	48					1		
Urticaria	2	42	44	3			1		
Syphilida									
Acne	2	27	44	2					
Bubo, Primary	4	30	45	3					
Ditto, Secondary	7	27	34	5			2		1 left.
Chancres	4	121	29	5					
Condylomata	2	19	72	2					
Psudracious Pustule	1	32	56	1					
Rupea and Impetigo	1	27	147	1					
Ditto and Psudracious Pustule	1	22					1		
Tubercles and Pains	8	30	36	8					
Ulcers	5	328	43	7			1		
Throat, Diseases and Injuries of.									
Ulceration of Pharynx	2	12	14	2					
Foreign Substance in Oesophagus		160	1	1					
Ulcers.									
Constitutional	8	251	59	8			1	1	
Indolent	9	433	40	11			2		
Varicose	4	343	78	3			4		
Weak	3	146	11	3			1		
164 65				161 6 24 12				26	

* This patient had extensive sloughings over the sacrum and nates, and his case was

The following cases are a few of those which have been considered the most interesting, and they are given in the order of the list. The Remarks on them are made by Mr. Spalding and Mr. M'Lauchlan, the surgeons of this hospital.

CASE OF FEMORAL HERNIA.

N—H—, æt. 73, a pauper, admitted at 12 noon, 26th June, 1837, for a strangulated femoral hernia of the left side. Gives a very indistinct account of herself; but states that for several days past she had had a diarrhœa, for which she took a dose of the infusion of senna-leaf and Epsom salt on the 18th *curt.*, and that on the night of the 23d, she observed the swelling in the groin; since then she has had no stool. Never had a hernia before.

Symptoms. 1st Local.—An oblong, smooth, and hard tumor, seated over Poupart's ligament, the neck of which can be distinctly traced to the saphenic aperture; it is tender to the touch, and the integument covering it is red. 2d General.—A constant burning pain at the epigastre; occasionally retching; hiccup; skin natural; countenance anxious; tongue loaded and brown, and moist; pulse 92, small and soft. After having unsuccessfully endeavoured to reduce the gut by the taxis, assisted by the warmth-bath, warm water enemata, and, lastly, by an enema of tobacco infusion, the patient was placed on the operating table at 8, p. m., and Mr. M'Lauchlan divided the stricture at Gimbernat's ligament, so as freely to admit the finger into the cavity of the abdomen. The gut, however, could not be returned, owing to firm adhesions surrounding its neck. The gut itself had a dark brown appearance, and it was judged better to leave it, thus far relieved from the stricture, than to proceed to dissect off the adhesions. The edges of the wound were brought together and the patient placed in bed. A dose of castor oil was given, and an enema of salt and water again exhibited. The injection came away with a little feculent matter, but the oil did not operate. On the 27th. at 9, a.m., she had passed a bad night, and complained of pain at the stomach and retching, and of frequent ineffectual calls to stool; loaded tongue; pulse 64, intermitting and small; countenance anxious; extremities cold. Rept. enema. 12 Noon. The injection has come away with a little feculent matter mixed with blood and mucus. R. Pil. colocynth. ct. iv. Ext. hyosc. gr. ij. M. ft. pil. iv. Pil. j. omni horâ cap. est. 6, p. m. No relief from the bowels; extremities cold and clammy; countenance more anxious; pulse 90. Vin. rubri. ʒss. omni secundâ horâ cap. On the 28th, at 5, a. m. she vomited a quantity of green fluid and died.

Autopsy, at 5, p. m. The strangulated portion of gut was a link of the upper third of the ileum; its coats were mortified, and nearly perforated in one or two places. The mesentery attached to it was very much on the stretch, and it tightly bound down a great portion of the small intestine to the spine. The bowel above this part was loaded with feculent matter and air, but below it the bowel was empty.

Remarks It appears from the state of the parts, that incarcerated hernia had existed for some time, and it is likely the gut became strangulated from the effects of the diarrhœa, and the purgative medicine. The loaded state of the bowel above the incarcerated portion, and the condition of the mesentery, may

considered by the medical gentlemen who had attended him before his admission as one of diseased spine. On that account he was admitted into the surgical wards. When he left the house, however, ten days afterwards, there was reason to consider the case rather one of paraplegia than of diseased bone.

account for the continued obstruction. This obstruction might probably have been removed by a division of the adhesions, had the state of the mesentery been suspected; but this would have been attended with the risk of injury to the vessels, as well as to the gut which presented an almost gangrenous appearance.

The case of strangulated inguinal hernia was of the right side, in a male, æt. 30, and was reduced by the taxis.

CASE OF ARM DROP.

A. D., æt. 14, baker, admitted 22d February, 1837, for loss of power of the muscles of the right shoulder-joint.

States that seven weeks ago he was seized with the influenza, and that since he has lost all power of the right arm; although he has otherwise regained his strength. He cannot assign any other cause for his complaint.

Symptoms.—While the arms are kept by the side, no perceptible difference is observed between the two shoulders, its sensation is perfect, and there is very little pain felt excepting on rather firm pressure applied over the brachial plexus. Of the different motions of the joint, he can only, in a very slight degree, perform adduction and rotation inwards, so that when the arm is raised, it falls powerless by the side. The motions of the other joints of that extremity are free and perfect.

He was ordered a solution of quina. A blister was applied over the brachial plexus, and the surface kept discharging by a repetition of the blister until the 9th of March, when there being little improvement from this treatment, he was directed to use the cold douche daily, and an embrocation of ol. tereb. and aq. ammo.—He continued under the latter treatment until the 4th of April, when the douche, embrocation, and solution of quina were omitted from there being little change of symptoms; and on that day he was again blistered over the brachial plexus; and the blistered surface dusted with gr. $\frac{1}{4}$ of strychnine, twice a day. On the 8th the strychnine was increased to a gr. $\frac{1}{3}$ three times a day and continued until twitches were produced. On the 28th of May he was made an out-patient, very much improved, and subjected four times a week to a current of electricity through the affected limb, by which he, in a few weeks, perfectly recovered the power of it.

Remarks.—Various anomalous affections have been frequently observed to follow the influenza, apparently of a neuralgic character—was this a case of the kind?

CASE OF DIFFUSE POPLITEAL ANEURYSM.

J. M., æt. 30, a ploughman, admitted at 10 A.M., 29th August, 1837. Says that he was of a robust habit of body, that his habits had been dissipated, but that, until last May, he enjoyed good health, and never had any serious ailment, excepting once (three years ago) that he required general bleeding and other antiphlogistic measures, for a cold he had caught after a debauch. States also that his mother died suddenly at the age of fifty, of a chest affection, of which she had complained for twelve months; and that his father died at an early age, but that he does not know of what complaint. He was their only child. About the beginning of last May, complained of rather severe pain, of a rheumatic character, in the left upper extremity, which stretched from the shoulder to the middle finger; it continued for nearly a week, and then quite subsided, and has never since returned. Eight or ten days afterwards, pain of a similar character

commenced in the right lower extremity, and was felt especially severe in the groin and ham, and there were occasionally severe darting pains between these points. For rather more than a week he could only walk with the use of a staff, but the pain then abated so much that he was enabled to resume his avocations until six weeks ago, when the tumor was first observed in the poples, and since that time he has been bed-ridden. The patient can assign no cause for the pain in the upper, and the commencement of the pain in the lower, extremity; but thinks the increase of pain in the latter, and the tumor, were produced by lifting a heavy weight two weeks previously to the appearance of the tumor.

Symptoms.—1st Local. There is a diffuse, fluctuating, pulsating and compressible swelling, occupying the right poples, and extending beneath the heads of the gastrocnemii, and the tendons on each side of the knee-joint; the pulsation is felt over every part of the swelling, and it ceases on compression of the femoral artery in the groin. The limb below the knee is slightly œdematous, and its sensation impaired; it sometimes feels hot, and at others cold, and is the seat of constant pain from the poples downwards, which is subject to violent and irregular paroxysms. The paroxysms, however, are most frequent during the night, and effectually prevent sleep—the patient declares that all the sleep he has had for the last five weeks, will not exceed six hours. 2nd. General. There is no cough, dyspnœa or palpitation, but frequent complaint of pain in the head. There are repeated and profuse perspirations; the body is very much emaciated; appetite impaired; bowels regular; tongue moist and clean; pulse 100, hard, full, and vibrating, but very compressible. The pulse of the affected limb has the same character as far as the tumor, but below it, there is no pulse to be felt; the pulse of the opposite limb is much less full and hard. Epistaxis has taken place three different times since the tumor was observed. Percussion duller over the cardiac region than natural, but especially so between the fourth and fifth ribs. Heart's impulse rather increased, and its apex strikes between the sixth and seventh cartilages; its two sounds can with difficulty be distinguished; the bruit de soufflet, is remarkably distinct over the whole of the anterior of the chest, and the bruit de rape equally so over the cardiac region. Along the spine also both are heard, but much less loud; and they are likewise very distinctly heard in the tumor itself.

States that he has at three different times been freely bled generally, and had leeches and seven blisters applied to the tumor.

R. Muriat. morph. gr. i., aquæ si. acid. pruss. gtt. j., M. ft. haustus, statim sumendus. 4 P.M. A short sleep from the anodyne; bowels have moved; no other change. After consultation, Mr. McLauchlan tied the superficial femoral at the crossing of the sartorius. The pulsation in the tumor immediately ceased; the pain of the limb was greatly lessened, and the pulse became softer. Rept. haustus. 6 P.M. No sleep; no pulsation in the aneurysm; leg and foot of a natural heat, but to the patient they feel "burning;" no pain; pulse 100, and continues softer. 11 P.M. Toes becoming rather cold; no other change. The toes to be rubbed with the hand.

30th, 9 A.M.—Has had some sleep and altogether a better night's rest than he has had for the last six weeks. Since 4 A.M. has complained alternately of heat and cold in the limb from the knee downwards, but chiefly of heat; the toes still feel to the hand cold, and the cold is spreading up the foot; sensation not improved in any part, and the toes and dorsal aspect of the foot are barely sensible to pinching. There is some swelling around the wound, its edges adhere at one or two points; from its upper end some glairy fluid escapes. Pulse 102, rather harder; above the ligature the artery throbs violently; below it, there is no pulsation; countenance anxious; less of the bruit de soufflet; other stethoscopic indications as before. Continue the rubbing. 11 A.M.—Upper part of the foot not so cold; no stool; tongue moist. Pil. Rhei ct. iii. 6 P.M.—No stool; no pulsation below the ligature; toes still cold. On a deep

inspiration there is pain at the upper part of the sternum; pulse 106. Enema com. statim. 11 P. M. Bowels freely moved. Rept. haust. anodyn.

31st.—Some sleep; complains less of the sensation of heat and cold in the leg; pain continues at the sternum, and at 4 A. M. he felt, he says, a sensation there as if "a horse were galloping." Toes still cold, and the upper part of the foot again became so; from the wound there is some healthy pus discharged, and around its edges a slight degree of redness; no pulsation; no stool; tongue moist; pulse 100, and softer; has not perspired since the operation. Simple dressing to the wound. 1 P. M.—No change. R Tart. antim. gr. i, aquæ ʒvi. solve; ʒss. omni secundâ horâ cap. est. 6 P. M.—Bowels have moved; pulse 102, cont. medicament, omni horâ. 11 P. M.—The "burning" sensation in the leg and foot returned; toes and foot still require to be rubbed. Rept. haust. anodyn.

September 1.—A good night's rest; has feeling of "burning," and no pain of the chest; less anxiety of countenance; pulse 100, and more soft; perspired profusely; tongue moist; no stool. More redness around the wound, and an increase of the discharge. No other change. Continue. 5 P. M.—No stool; pulse 114. Pil. rhei ct. iii. et rept. haust. anodyn. h. s.

2d., 9 A. M.—Had some sleep, but started during it; and he does not feel so well to-day; no stool; tongue dry; pulse 114, and still soft; perspired less. From the wound there is rather a copious discharge; coldness extends up the foot. Enem. com. statim. 6 P. M.—Bowels have moved freely; tongue moist; pulse 116. The articulars of the inner side of the knee-joint can be seen and felt to pulsate; took dinner, and he feels happier since this was observed. Rept. haust. anodyn.

3d., 9 A. M.—A better night, and he has taken breakfast pretty well; pulse 116; no stool; tongue moist. The internal articulars are still felt pulsating, but less strongly; there is no pulsation in the aneurysm, which is not diminished in size since the femoral was ligatured, and it feels rather hot and is acutely painful to the touch. The coldness continues in the foot, and the skin covering it has a mottled appearance; the discharge from the wound is still rather plentiful. Ol. ricini ʒvj. statim. 1 P. M.—Hemorrhage took place from the upper end of the wound; the blood appeared to be venous, and he may have lost between two and three ounces. Slight compression applied over the artery. 6 P. M.—No recurrence of the hemorrhage; one free evacuation from the bowels; pulse 110. 11 P. M.—Sleeping.

4th., 8 A. M.—Slept nearly the entire night, but the sleep was disturbed by starts and dreams; he does not feel so easy to-day; and attributes this in part to the pain of the wound; no hemorrhage, no stool; tongue moist; pulse 110; coolness extending up the leg. 1 P. M.—The compress removed from the wound; its edges seen gaping, and from it some ill-conditioned bloody pus escaped. Simple dressing. R Tart. potass. et sodæ ʒiss. aquæ ʒviii. solve; ʒiii. statim, et ʒss omni horâ donec alvus respondeat. 6 P. M.—No stool; occasionally hiccup; pulse 114. R Muriat. morphiæ gr. j. hyd. c creta gr. iv. M.

5th., 8 A. M.—An indifferent night, but he feels rather easier to-day, and inclined for breakfast; has taken all the saline solution without relief from the bowels; pulse 110; no hiccup; perspired a little; a flush on the right cheek. The symptoms of mortification increase; the poples is more swelled and hot, and a slough is observed to be forming on its outer side; wound looks better and the pus discharged is more healthy. Dressings continued. Bladders filled with hot-water applied around the leg. Enema com. statim. 6 P. M.—Very uneasy and complaining of intolerable pain or heat in the thigh, and belly as far up as the sternum, which is increased by pressure; the belly feels hot; bowels relieved; stools natural; tongue moist; hiccup; pulse 130. Rept. haust. anodyn. statim. Foment. calid. abdom.

6th., 8 A. M.—The anodyne draught was repeated at 4 A. M., he has slept

a great part of the night and is still disposed to sleep; pain of abdomen relieved; tongue moist, pulse 115; hiccup, mortification spreading. 11 A. M.—Amputation proposed, but the patient would not consent to it, "at least to-day." 6 P. M.—Pulse 100; no stool; tongue moist; no change. Rept. sol. salina.

7th., 5 A. M.—No change. Patient consents to have the limb removed, but just when he was about to be lifted from the bed he died from terror.

Autopsy thirty hours after death.—The ligature had separated, and both ends of the artery were filled by a coagulum; the aneurysm was diffuse, and its sac formed by the surrounding tissues. The diseased portion of the artery was exactly opposite the bend of the joint, and the aperture in it sufficient to admit a large pea. The coats of the artery when tied were healthy. The heart was removed with a very small portion of the aorta, and the following is the state of that organ—its right side normal; great dilatation of the left ventricle and hypertrophy by extent of surface; on the mitral valve next the aorta, is an aneurysm about the size of a walnut, which projects into the corresponding auricle, and is perforated by three openings, all of which are sufficiently large to admit a garden pea; two of them open into the auricle, and the other perforates the mitral valve, and opens into the ventricle. The aortic valves are completely defaced by deposits of calcareous matter, which project and hang into the ventricle. Osseous deposits beneath the lining membrane of that portion of the aorta removed.

Remarks.—This case has many points of interest to the practical surgeon, and is one, among many, which proves the necessity of minute enquiry into the state of the internal viscera in such cases. Without the aid of the stethoscope the diseased state of the heart could not even have been suspected; none of the general symptoms, with the exception of the headache and the pain in the left arm, which latter occurred sometime before the aneurysm indicated any disease of that organ. The patient also positively declared that he never had any symptoms of an affection of the heart, and the character of the pulse too seemed to contraindicate any valvular disease. With regard to the best mode of treatment in such cases there can be little doubt that amputation is the only remedy likely to prove successful—the diffuse nature of the aneurysm and the want of pulsation below it, naturally suggested such a proceeding, had not the man's* repugnance to the removal of the limb precluded it. Subsequently when this operation was considered indispensable, from the symptoms of mortification supervening, it may be matter of surprise that it was not proposed at an earlier period, but the return of the circulation in the articulators, and the continued aversion of the patient to the removal of his limb, were the causes of delay; yet even had the operation been proposed to him sooner, it is probable from the actual result, that the mere idea of such a measure would have been too much for his timid nature. It will be observed by the report that symptoms of disease of the heart supervened on the day subsequent to the operation, and continued daily to increase—these symptoms it may be naturally inferred became prominent in consequence of the greater resistance to the circulation caused by the ligature on the artery.

The autopsy was conducted by that able anatomist, Dr. Alexander Jardine Lizars, of Edinburgh, who happened to be in this neighbourhood, and to whom we have much pleasure in expressing thanks for his valuable assistance; and it may be right to add that that gentleman was also of opinion that amputation was the only remedy. Further examination of the arterial system was prevented by

* Before he was admitted into the Infirmary, the removal of the limb was proposed to him, but he positively refused to submit to it, and only consented to become a patient there with the understanding, that the vessel only would be secured.

the objection of the relatives of the man, who had, to prevent any examination, removed the body home seven miles from town, on the day of his death, so that the examination had to be conducted there the following day in presence of several relatives, after a partial consent had been obtained.

CASE OF WOUNDED ULNAR ARTERY.

D. N., æt. 32, labourer, admitted 9th of August, for an incised wound across the left wrist. The wound penetrated to the bone, dividing the tendons and ulnar artery; it was produced accidentally, eight days ago, while cutting a stick, and has on three different occasions bled profusely. Graduated compresses and a bandage applied. Saline solution. The wound suppurated in a few days, and gradually healed with impaired motion and sensation of the ring and little fingers.

CASE OF FRACTURED PHALANGES, &c. AMPUTATION AND CURE.

J. D., a male, æt. 37, labourer, admitted the 17th of June, 1837, at 6 P. M.—He received the following injuries from the bursting of a stone, he was engaged blasting at a quarry, about an hour-and-half before admission; and working at the time on the edge of the quarry, he sustained a fall of twenty feet.

All the fingers of the right hand were dreadfully lacerated on their dorsal aspect; their joints exposed, with comminuted fracture of the first or proximal phalanges, and fracture of the phalangeal extremity of the metacarpal bone of the right little finger. The bones of the thumb were sound and its apex slightly lacerated. The ring and little fingers of the left hand, and the portion of the palm of that hand corresponding to these fingers, were lacerated and fractured in a similar manner; and there were wounds of less importance on the other fingers, as well as on the fore-arm of that extremity. The face and neck were blackened with powder, and studded with punctured wounds. The coats of the right eye were torn and sunk, in consequence of the humours having escaped. The vision also of the left eye was nearly lost from injury done to the iris and its other coats. From the wounds of the face he suffered pain, and felt cold. Pulse was 60. He stated that he was of a very healthy constitution and that wounds rapidly healed with him.

Sand and earth were removed from the different wounds, the eyes syringed and cleansed, and warm fomentations applied. Heat was applied to the feet and warm drink given him.

At 8 P. M., Mr. Spalding and Mr. M'Lauchlan proposed amputation of the injured fingers, but the patient would not submit. On the 18th at 8 A. M., he had passed a bad night; face swelled; no increase of pain; skin hot; tongue foul; no stool; pulse 70 and sharp. R. Mag. sulph. ꝑj. tart. antim. gr. ʒ. abua ʒviij. solve; capiat statim. At 1 P. M. after a consultation with the medical officers of the institution, amputation was again proposed, to which the patient now agreed. Mr. M'Lauchlan removed the fingers of the right hand by dividing the phalangeal extremities of all the metacarpal bones—the flap being taken from the palmar surface. The ring and little fingers of the left hand, with portions of the corresponding metacarpal bones, were also removed; the flaps on both brought together by the interrupted suture, and cold cloths applied. Very little blood was lost, and the patient bore the operations well. The wounds suppurated, but by the 25th of July they were both healed, as were also the different puncture wounds of the face and neck. On that day the right eye was completely sunk in its orbit, and with the left eye he could just perceive the light; lymph appeared to be effused between the layers of the cornea, and the

anterior chamber was occupied by an opaque substance; the pain of the eye was more acute, and one or two large vessels were observed ramifying towards the cornea. Leeches were several times applied to the angle of this eye and the extract of belladonna rubbed twice a day on the eyelids. He took two grains of calomel and a quarter of a grain of opium night and morning, until the 7th of August, when his mouth became sore. The inflammatory symptoms had then subsided; the opaque substance was in a great measure absorbed; the cornea was clearer but with the lower edge of the iris adhering to it, the pupil was of course irregular, and the vision, although improved, was still imperfect. For two or three days previous to the last date he had complained of a smarting in the cicatrices, and on that day matter was discharged from the cicatrix of the right hand, and part of the adhesions had been absorbed. The calomel and opium were omitted, and the sulphate of zinc solution applied to the wounds; they speedily healed, and on the 10th August he was dismissed at his own desire, in the above condition.

Remarks.—With the thumb and the remaining portion of the right hand, the patient could use a spoon and other articles, and assist himself in many other ways: the left hand was of course of still more use to him.

CASE OF TRANSVERSE FRACTURE OF THE RIGHT PATELLA.

J. V., æt. 40, a male, admitted 17th September, 1837. The injury was occasioned by a fall on the knee. A roller was applied from the toes to the patella and the limb extended on a straight splint, with the foot elevated. Pieces of bandage were placed on both sides of the patella, and confined there by several turns of a roller applied both above the condyles of the femur and below the head of the tibia; the ends of the lateral bandages were then drawn together and tied so as to bring the fractured extremities into as close apposition as possible. It was found, however, totally impossible to make the patient, who was of a very irritable temperament, submit to the necessary restraint, or to keep the two portions of bone in apposition, notwithstanding of unremitting efforts for that purpose, and to make him comprehend the necessity of repose. He was consequently dismissed on the 14th November, with the fractured extremities separated for rather more than an inch, and united by ligament; the motion and strength of the joint being impaired.

CASE OF FRACTURE OF THE NECK AND TROCHANTER OF THE RIGHT OS FEMORIS.

J. K., a female, æt. 74, was admitted 1st June, 1837, for an injury, the result of a fall on the street, the preceding evening. She died four weeks after admission from diarrhoea, and extensive sloughing over the sacrum.

Autopsy.—The neck of the os femoris was broken from the shaft of the bone, and forced into the substance of the great trochanter, which it had split. A bridge of new bone had formed between the posterior portion of the great and little trochanters: there was no osseous union of the neck, and but slight adhesions to the surrounding parts by a ligamentous substance.

Remarks.—This is another example of the improbability of osseous union taking place in fractures of the neck of the femur.

CASE OF THE FRACTURED CERVICAL VERTEBRA.

T. C., æt. 32, admitted 3d December 1836, at 6 P.M. He had been sitting on

the box of a cart five days ago, and the horse suddenly and unexpectedly stopping, he fell from the cart upon the back of his neck and shoulders. He was carried home senseless and paralyzed, and continued so for four and twenty hours; after which he became sensible, but the paralysis remained: the stools had been voided without control, and the urine required to be drawn off. He had taken several doses of purgative medicine and was bled generally the day preceding his admission.

When admitted he complained of pain from the back of the head to the shoulders, principally however at the upper part of the neck, much aggravated by motion, and pressure gave the most acute pain over the situation of the 2nd, 3rd, 4th and 5th cervical vertebra. The lower extremities were completely paralyzed, the upper ones nearly so, and both were void of sensation. The integument covering the abdomen could likewise be pinched without given the least sensation. The integument of the thorax was slightly sensible, and of the neck and face perfectly so. The respiration appeared to be performed entirely by the diaphragm; the air-tubes were obstructed by mucus, and there appeared to be no power to discharge. Pulse was 64 and compressible. Thirst; skin cool; repeated short rigors; two stools voided involuntarily since his admission; hypogastrium distended. Urine drawn off, and leeches to be applied to the neck. He died suddenly at 9, P.M.

Autopsy 12 hours after death.—There was a fracture of the right side of the arch of the 5th cervical vertebra running obliquely downwards and outwards, into the articular surfaces of the 5th and 6th vertebra. There were slight adhesions between the left pleura, and the air-tubes contained much mucus.

Remarks.—Death doubtless resulted, in this case, from compression of the spinal marrow. Had the nature of the accident been ascertained, and all motion of the neck prevented, it is possible the patient might have recovered. Here the anatomy of the parts accounts distinctly for the symptoms; there was sensation and motion in those parts only supplied by the cerebral nerves and cervical plexus, which come off above the seat of injury; and the superabundant mucus in the air-tubes seemed to be the result of the diaphragm being unable, unassisted, to discharge that natural secretion.

CASE OF LATERAL CURVATURE OF THE SPINE.

S. P., æt. 14, a servant girl, admitted 28th August, 1837. During the early part of the Summer she had had an attack of influenza, and nine weeks before admission she felt pain in the back, and five weeks afterwards the curvature was noticed. On two different occasions six leeches had been applied to the pained part of the back, and afterwards the tartrate of antimony ointment: from the latter application some relief was experienced. She was permitted to be out of bed during the day.

At her admission the curvature was very considerable, and it involved the nine lowest vertebræ; there was very little pain in the recumbent position; but the erect posture, more particularly in walking, produced pain, and pressure made over these vertebræ had the same effect. General loss of flesh; natural sleep; bowels regular; tongue moist; pulse 96. She was directed constantly to maintain the recumbent position; was on four different occasions cupped to a moderate extent over the seat of pain; allowed a nourishing diet, and the bowels were regulated by aperient medicines. On the 4th October she was dismissed with the spine nearly straight.

Remarks.—The curvature in this case apparently arose from the debility occasioned by the influenza; and the improvement may be attributed to strict

attention to the recumbent posture, and the generous diet. We have no doubt the curvature would have been completely removed, but the patient would not submit longer to the treatment.

CASE OF CATARACT.

J. C., a female, æt. 29, admitted 30th November, 1836, for double cataract. The cataract of the left eye had commenced twelve years, and that of the right eleven years, before her application. For ten years she had been totally blind with the former, and nearly so with the latter eye. Both cataracts commenced with a mistiness before the eyes, with headache, vertigo, and dyspeptic symptoms. Both, but more particularly the right one, had a dirty brown appearance. She could not assign a cause for the disease, and it was not hereditary. There appeared to be nothing to contra-indicate the operation for division; and it being determined to try the right eye first, Mr. M'Lauchlan, at seven different sittings, performed the operation. At each successive sitting the cataract was softer than at the preceding one. On the 12th April she was dismissed with the cataract of that eye quite removed, but with the vision impaired, owing to a degree of amaurosis.

Remarks. The history of the case indicated a complication of amaurosis with the cataract, and no great hope of a perfect restoration of vision was held out. The result, however, surpassed our anticipations; the patient is now able to direct her own steps, use the needle, distinguish colours, and read a little of a large type. She has again returned, and is now submitting to the same mode of treatment for the left eye. The right eye was first selected for treatment in consequence of the softer appearance of the cataract, and because its vision was barely sufficient to distinguish the shadow of passing objects. No unusual symptoms followed the use of the needle, but the process of absorption was slow.

CASE OF LACERATED WOUNDS FROM THE BURSTING OF A FIRELOCK.

W. W., æt. 27, a gardener, admitted at 4, p.m., 24th November, 1836. Twenty-four hours before admission he received a wound of the left hand by the bursting of a firelock which he was holding. The shot and pieces of the gun passed through the hand, carried off the ring and little fingers, and otherwise shattered the hand very much. The wounds had been stitched up immediately after the accident by two respectable surgeons, one of whom accompanied him from his home, a distance of eight miles, to the hospital, and stated that all the metacarpal bones were fractured, that a portion of one had been removed and that the hæmorrhage had not been great.

Symptoms of admission. Hand swelled—tension of the ligatures, and a slight oozing of venous blood. The thumb and two remaining fingers felt cold, and had very little sensation; pain was acute in the thumb and palm of the hand. Tongue coated and moist—skin cool—thirst moderate—pulse 88. The stitches were removed, and warm fomentations applied. From the time of his admission until the 2d December, the hand and arm inflamed, and the wounds of the former suppurated and sloughs formed. During that period warm fomentations and poultices made with the solution of the chloride of soda were applied; the pain was alleviated by opiates, and the bowels which were constipated kept open by laxatives and enemata. On the 2d December, when symptoms of tetanus supervened, and the pain of the hand increased, solution of opium was added to the poultices, and he had Calomel, gr. iij. Camph. gr. v. Pulv. opii,

gr. 1½, every four hours. On the following day the symptoms of tetanus increased, and he complained especially of pain at the lower end of the sternum; which came on in frequent paroxysms upon the slightest motion. The discharge from the wounds continued copious. The previous treatment was continued, and a great variety of antispasmodics given by the mouth and rectum without effect. On the 4th the paroxysms of pain increased in frequency and severity, and were followed by convulsions; deglutition was almost impossible, and attempts to swallow renewed the spasms; the skin was clammy; pulse 102, full and regular. Suppuration was still abundant. At mid-day, after a consultation, Mr. M'Lauchlan removed the limb at the insertion of the pronator radii-teres by the flap-mode, and a large opiate was exhibited. During the first four hours after the operation the spasms continued, and then ceased—At 6, P. M., however, he complained of a distressing feeling of choking from the presence of viscid matter in the larynx, which he could not discharge. Skin was clammy—pulse 120 and varied. On the 5th, at 10, a. m., the convulsions returned with great violence, and he died immediately; the choking sensation continued to annoy him to the last. A post-mortem examination could not be obtained. On examination of the detached hand, the whole of the metacarpal bones were found comminuted.

Remarks. As not unfrequently happens in such cases, constipation preceded the tetanic symptoms; and the pain at the bottom of the sternum was much complained of; but, contrary to what generally obtains, the purulent discharge continued abundant. It is proper to mention that, among the antispasmodics used, tobacco and the hydrocyanic acid are not included. It will be observed that amputation was delayed until the third day after the appearance of the tetanic symptoms, when all hope of relief from mercury and the various antispasmodics was gone. The operation seemed to produce temporary abatement of the symptoms, but their return in a few hours quickly destroyed the patient. The result of the amputation in this and other cases would seem to point out the propriety of having recourse to it on the first accession of the symptoms or not at all.

The fatal case of hernia humoralis was owing to an attack of typhus fever.

The cases of hydrocele were treated by acupuncture, but in only one of them did it prove successful. In a case, however, which occurred subsequent to the period embraced in the report, in which it was tried, the fluid was speedily removed. In both cases the hydrocele was punctured several times, but only one puncture was made each time.

The cases of chronic inflammation of the mucous membrane of the bladder were traced with cubebs, inf. buchu, uva ursi, nitric acid, and decoction of pareira brava. Of these the last has been found the most effectual in reducing the secretion of ropy mucus, the pain and frequent calls to void the urine.

The cases of favus were treated with a great variety of remedies, such as the following:—R. Subcarb. sodæ, ʒij. Slaked lime, ʒij. Lard, ʒij. Mixed. R. Carb. potassæ, ʒij. Axung. ʒiv. Mixed. R. Pul. helleb. alb. Pul. conii macul. aa ʒss. Axung. ʒiv. Mixed. R. Liq. potassæ, ʒj. Ol. oliv. ʒij. Mixed. Nit. argent. Potassa c. calce; and, lastly, with mere ablution with warm water twice a day. With all these applications, with the exception of the potassa, we have found the improvement only temporary. It was applied almost daily to portions of the affected cutis, so as to destroy it, and it appears to be the most efficient remedy. This treatment has been tried in three cases, of which two are under treatment. One of them has been so for eight months, without a recurrence of the disease on those parts to which the application had been made. The remedy is a severe one, but as this disease renders a person loathsome both to himself and others, patients for the most part willingly submit to it.

The case of ulcer terminated fatally from an attack of dysentery which super-vened on the primary disease.

Several of the skin diseases, and more especially the syphiloid and sibbens, were treated with the solution of the hydriodate of potassa, which we have found very effective in the secondary symptoms of syphilis, and particularly so where there was a scrofulous habit of body. In such cases it has proved more beneficial than mercury and sarsaparilla. We have been forced to intermit it from its producing headache, sore throat, and diarrhœa, and we have witnessed ptyalism and large petechiæ produced by it. The case of eczema inveterata, after being tried alternately, with ioduret, ferri, ioduret. sulph., or proto-iod. hydrarg. taken internally, and nit. argent. and sulph. cupri applied externally, was treated with the hydriodate of potassa with little benefit. It was in this case the petechiæ were observed, and it was interesting to see them disappearing and re-appearing as the medicine was omitted or resumed.

III.

REGIMENTAL HOSPITAL, BANGALORE.

PURULENT DISCHARGES FROM THE BLADDER AND RECTUM IN HEPATIC DISEASES, &c. By J. MOUTAT, Esq.

PURULENT deposits have been noticed from a very remote antiquity, and have been the subject of much discussion in modern times. Instances have been recorded by Galen, Scultetus, Paré, Belloste, Quesnay, Butner, and others, "in which the sudden disappearance of abscesses, and the cessation of purulent discharges, have been accompanied with evacuations of pus by the bladder and rectum.* Yet, so far as our recollection serves, the former has not been noticed as a termination of hepatic abscess. Purulent matter passed by stool is by no means a rare occurrence, and has been referred† to the pus escaping by adhesions, and ulcerative communication, directly into the intestines, gall-bladder, ductus-choledochus, &c.; whereas, if our observations be correct, it has in several instances been a deposite or excretion in the fecal and urinary discharges. Cases, therefore, illustrative of such an event, we trust, will possess sufficient claims to merit the attention of the profession, independent of being characteristic of the beautiful and admirable efforts of the system, in averting the fatal termination of disease in more than one individual, when the resources of art promised scarcely a hope of relief.

We have no intention of entering into a detailed history of purulent discharges or the diseases connected with such phenomena, but to illustrate by a brief abstract of cases, a mode of termination, that would appear, from our own experience, to be of more frequent occurrence than the histories of hepatic affection would lead one to expect. That it should not have been observed and recorded in hepatic abscess, is no reason why it should not have existed. Had it not been accidentally noticed in Ward's case, it is probable it would not have been detected in the subsequent cases,—so prone are we to overlook that which is not expected. The frequency of the occurrence may be referred to the great prevalence of hepatic cases at this station, and their protracted tendency to the excellence of its climate enabling the constitution to make extraordinary efforts towards convalescence, even after the most severe and formidable acute disease. Therefore it is not too much to infer, that in less salubrious places, several of

* Dr. Balfour's Essay on Purulent Deposits, 1830.

† Annesley, vol. ii. page 210.

the cases which we have recorded would have terminated fatally, even at a period anterior to the appearance of the pus in the excretions.

Mr. Annesley, in Vol. I., pages 674 and 676 of his elaborate work on the diseases of India, relates a case of hepatic abscess discharged through the lungs, and in whom "a wound, which he received in his thigh, broke out and discharged a quantity of pus with small stones;" and regarding which Mr. Annesley observes; "probably the irritation and discharge from the parts acted as a derivative from the seat of the disease in the liver and lungs." Likewise purulent accumulations take place after wounds of the veins, after fractures, amputations, excision of the joints, wounds of the head, delivery, &c., and consequently from analogy, it is not unreasonable to expect a like occurrence in hepatic affections, since the very actions of the system which could cause the removal of an abscess or its subsequent deposition in a remote and different texture, would occasionally discharge it with the excretions of the intestines and kidneys, had we not the authority of facts for its confirmation.

Hunter declared the translation of pus impossible, and denied that its absorption was attended with pernicious effects. However, Paré, Pegrai, Bonnet, Morgagni, Petir, Van Swieten, Rochoux, Marechal, Reynaud, Legallois, Lary, Velpeau, Mr. Rose, Hennen, Dr. Copeland,* &c., who have directed their attention to these anomalous formations of abscess in distant situations, have not only admitted the occurrence, but offered various explanations of the circumstance. Where opinions are various and discrepant, it is probable that many of the cases from whence they have originated, have been alike varied and modified. We should, so far as our observations extend, refer the appearance of purulent matter in the fecal and urinary discharges to absorption and subsequent excretion. Neither can we altogether dismiss the influence of the known efforts of the system in relieving itself when any of its principal functions are oppressed or impeded in their natural actions, as is illustrated by the results of critical discharges, and the phenomena of metastasis, which, however explained, must be allowed to exist: since the most minute dissection could trace no direct communication between the liver and the intestines and kidneys in those who died; nor in Leamy, case 12, between the stomach, the seat of his disease with the lungs and kidneys, though he expectorated pus, as well as voided it with his urine. Beside which, Twining observes, that small abscesses near the surface of the liver, are frequently absorbed, and that in two cases of hepatic abscess, he "found a small quantity of puriform matter in the right ventricle of the heart."† Andral and others have observed pus in the veins, and Dr. Alison states: "The veins leading from extensive collections of matter, especially in chronic cases, are often found loaded with pus."‡ We may, therefore, look to the vascular system as the more probable mode of its removal and subsequent excretion. After all, how this takes place is of little moment to inquire, and perhaps in some degree is irrelevant to the object of the present communication, our wish being merely to point out the circumstance, and to give a brief record of the cases illustrative of purulent deposits in the hepatic diseases of this country. Such an occurrence being established, it is easy to raise a theoretical superstructure; but though we may be unable to trace with more than speculative precision the operations of Nature by which so important a result has so frequently given unexpected relief, yet none, we imagine, can help admiring the extreme beauty and importance of the effect, as illustrated by some of the following cases.

* Vide Dr. Balfour's Essay.

† Diseases of Bengal, page 140.

‡ Vide also Graves on the Lymphatic System.

Case 1. Corporal James Ward, ætat. 26. In India 1 year.

Admitted on the 29th September, 1831, with a severe attack of hepatitis, attended with giddiness, fever, and slight cough. Pulse full and frequent; tongue white; bowels loose, and stools mixed with slime and blood. Though actively treated and copiously bled, yet twenty-seven days after admission his right side was observed enlarged, and which continued to increase gradually till the 23rd November, or fifty-seven days after admission, and whilst waiting anxiously for the abscess to point, it was observed that he passed matter by stool—and on the 8th December, large quantities by urine, so that by the 22 January, 1832, the swelling had quite subsided. He, however, remained in hospital many months, and though his general health was good, yet his side occasionally became painful and enlarged, which was always relieved by his passing matter either by stool or urine. The whole side at times appearing enlarged with evident fluctuation, yet as it did not appear to point, it was deemed uncertain and hazardous to operate. He remained much in the same state till December, 1832, when he was invalided and sent to Púnámállí, and ultimately to England. Late accounts report his perfect recovery.

In this case the cure was effected by the efforts of the constitution, and the passing the abscess by stool and urine, but principally by the latter secretion. There were no indications that the abscess had burst into the intestines; and its gradual removal, and that also by urine, would discountenance the supposition.

Case 2.—Private Thomas Rippen, ætat. 21. In India 2 years.

Admitted on the 8th February, 1832, with acute hepatitis—viz. severe pain in the right side extending in the shoulder, much increased on full inspiration and on pressure. Pulse quick and full: tongue white and moist: bowels costive, and skin hot. Though considerably relieved by active treatment, yet the pain of side constantly returned, with fever, functional derangement, &c. till the 27th April, 1832, or eighty days after admission into hospital, when pus was observed in his stools, and which he continued to pass in large quantities for twenty-seven days, with evident relief to his side. He remained delicate, sallow, and weak for some time, but ultimately got quite well, and on the 30th June following was discharged to his duties. During his sickness the side was not observed enlarged. He had a relapse, and was re-admitted into hospital on the 11th October following with a similar attack; his side was now obviously enlarged, and as he did not improve, and his constitution giving way, he was invalided and sent to Púnámállí on the 5th December, 1832, for a change of air, where he died in the depôt hospital, the 9th February, 1833.

The subsequent history of this case is equally interesting. On his arrival at Púnámállí 25th December, his right side was enlarged, and he had copious expectoration of purulent matter. On the 30th, left leg swollen from the thigh to the foot, which came on during the night. 31st, considerable swelling of lower extremities. January 2nd, swelling very painful.—4th, stools contain matter and blood.—14th, incision of right side between the ribs and a quantity of matter discharged.—22d, swelling of left leg decreasing, but right increased. February 9th, expired. No dissection recorded, but it would appear by the testimony of Assistant Apothecary Peppin, who was at that time at Púnámállí and assisted at the autopsy, that there was adhesion between the liver and diaphragm, and between the latter and the right lung, but no communication with the intestines, or any disease of this canal. It would appear by the case itself, with which we have been kindly furnished by our friend Dr. Stephenson, that he expectorated pus till about the time the incision was made in the side, but that by the intestines, continued to the period of his death.

This case is particularly interesting.—

1st. From the cure having been affected in the first attack by the abscess passing by stool.

2nd. Upon its re-appearance, the discharge of purulent matter by the lungs, in consequence of ulceration and direct communication through the diaphragm, as well as by the intestines and by the incision from the abscess itself.

3rd. The great constitutional irritation, the inflammatory swelling of the legs, so analogous to some of our own cases, and therefore how much is it to be regretted that the history is so defective, and that the pathology was not recorded by the medical officer then in charge.

Case 3.—Private Joseph Gibson, ætat. 23. In India 2½ years.

Admitted on the 5th April, 1832, with a violent attack of hepatitis, attended with sharp pain in epigastrium, extending to the right side and shoulder, with short dry cough and febrile symptoms, &c. Was largely bled and actively treated: yet on the 20th day after his admission, he spat up, by coughing, large quantities of purulent matter, tinged with bile, and of a bitter taste, with great relief to the dyspnœa, pain, cough, &c. Ten days after this he passed matter by stool and also by urine, which for a time relieved the pain of his side. However, he became hectic, wasted rapidly, and died on the 14th May, about six weeks after admission.

On *dissection* two abscesses were found in the right lobe of the liver; one adhering to the diaphragm and communicating with the lung, but small and nearly healed: the other was large and without any communication with the intestines, biliary ducts, or kidneys, notwithstanding the most minute examination.

Here were extraordinary efforts made by the powers of the system. That by the lungs had nearly succeeded, but the constitution sank ere the second abscess could be removed by the stool and urine.

Case 4.—Private James Young, ætat. 27. In India 6 years.

Admitted on the 14th April, 1832, with hepatitis; complaining of sharp pain in the right side, increased on pressure and deep inspiration, with much constitutional disturbance. Was largely bled and actively treated, but continued sickly, sallow, and debilitated till 13th May, when pus was observed in his stools, which he continued to pass in large quantities, until the 22nd, or for nine days. From this period he began gradually to regain his strength and appetite, and on the 31st July was discharged cured, and has remained since that time at his duties quite well, though looking sallow.

Here nature effected a cure by voiding the abscess by stool. There was no sudden giving way or other circumstance that could lead to the supposition that the abscess had burst into the intestines, &c.

Case 5.—Private Robert Mallalew, ætat. 28. In India 4 years.

Of a healthy appearance. Admitted on the 29th June, 1833, with symptoms of acute dysentery, complicated with acute pain at epigastrium, much increased on pressure: though the severity of the bowel-disease was considerably relieved by active treatment, yet he continued to suffer from the pain at epigastrium till the 7th July, when it extended to the right side, attended with fever, slight dry cough, quick pulse, thirst, &c. This continued unabated, though copiously bled and actively treated, till the 23rd August, or fifty-six days after admission, when pus was observed in his stools, and the following day more largely in the urine, with some relief to his suffering. From this period up to the 6th September he continued to pass matter copiously both by urine and stool, but without experiencing permanent relief to his side or producing pytalism, though calomel and blue pill were freely and largely used. On the 7th September the pain much increased, attended with dyspnœa, cold perspiration, restlessness, &c., and he died the following day.

Dissection.—Discovered a large abscess in the right lobe of the liver, containing about 13 ounces of well-digested pus; the left lobe appeared sound, the gall-

bladder thickened and contained a mixture of pus and bile. No connexion could be traced either with the biliary ducts, kidneys, or intestines.

At first the discharge of pus gave great relief, and though he ultimately fell a sacrifice to constitutional disturbance, still it shows the extraordinary exertions nature made to get rid of the irritating cause, and its importance by its temporary alleviation of the symptoms.

Case 6.—Private George Kennedy, ætat. 41. In India 11 years.

Admitted 7th September, 1833, with acute hepatitis, complicated with fever, diarrhœa, general debility, nausea, &c. Copiously bled and actively treated, yet he continued to suffer till the 18th, when his mouth became affected from calomel, and the following day pus was seen in his stools, which he continued to pass largely both by stool and urine for several days, with considerable relief; but his strength rapidly declined with emaciation and general debility. He died on the 27th, or twenty-one days after admission.

Dissection.—Discovered two distinct abscesses in the right lobe of the liver, one on the superior surface just below the diaphragm, containing about 19 ounces, and the other on the posterior margin, about 5 ounces of pus: the left lobe appeared sound, the gall-bladder distended with about two ounces of dark-coloured bile. No communication could be traced either with the intestines or kidneys, though minutely examined.

Here again we see the great efforts of the system, its effects, and the consequence of the failure.

Case 7.—Serjeant George Munnings, ætat. 43. In India 22 years.

Admitted on the 21st February, 1834, with pain in the right side, extending to the shoulder, increased on pressure and on full inspiration, with febrile symptoms, &c. These symptoms continued for several days, sometimes the pain increasing and at others abating, with frequent attacks of rigors, and swelling and heaviness of right side. Pulse varying from 90 to 134°, soft. On the 27th, or six days after admission, he began passing matter by urine, to the extent of 2 ounces in 24 hours, which considerably relieved the pain of his side, but left a partial swelling and heaviness; he continued to pass matter for several days, until his mouth became affected from calomel, when it gradually decreased, and with it the pain and swelling of the side subsided, but leaving him for some time in a weak state; appears drawn down to one side as if adhesion had taken place from the attack, with absorption of a portion of the liver, as we see in affections of the chest.

Invalided in consequence of debility, and sent to Púnámállí 16th December, 1834.

This was a very interesting case, as the tumour of the side, and the other symptoms, with the passing of purulent matter, plainly indicated its nature. The cure in this case was performed by the effects of the system.

Case 8.—Private Michael Redy, ætat. 40. In India 15 years.

Admitted 12th July, 1834, with acute hepatitis, attended with nausea, vomiting, general weakness, loss of appetite, fever, &c. On the following day the side appeared enlarged and very tender on pressure. Like the other cases, was actively treated, yet the pain and swelling continued unabated till the 17th, when his mouth became affected from mercury, and at the same time a deposition of pus took place in the urine with great relief to the pain, &c. and the swelling appeared somewhat reduced. From this period he continued to pass matter in his urine, to the extent of 2 to 3 ounces in the 24 hours, till the beginning of September, when a gradual decrease of both pain and swelling, and an improvement in his health and strength took place. During September, pus was observed in less quantity, and about 20th November it ceased entirely—and on the

26th of that month he was discharged to his duty quite well, and is now enjoying good health.

This is a most interesting case;—the disease so well marked, and so long protracted;—the large quantities of matter daily passed, and his ultimate recovery. The pus was repeatedly analysed.

Case 9.—Private Mark Smith, ætat. 23. In India 1 year.

Admitted 18th June, 1834, with acute hepatitis, complicated with dysentery, slight fever, nausea, general debility, &c.; copiously bled and actively treated, yet on the 5th day of admission his side became much swollen and very painful, and the following day pus was observed in his urine, with evident relief; the swelling was now considerably reduced, and there was slight pytalism from the mercury he had taken. On the 24th the pain returned with great violence, (though he continued passing matter largely, both by urine and stool,) followed by difficulty of breathing, weakness, copious cold perspiration, dyspnœa and lowness of spirits, &c., and he died on the 26th, or eight days after admission in great agony.

Dissection.—Disclosed several abscesses of various sizes in both lobes of the liver, some running into each other, and others quite distinct and filled with pus, but no communication could be traced either with the kidneys or intestines,—though the urinary bladder appeared filled with a mixture of urine and purulent matter.

Here again were the efforts of the system powerfully called into action, but the disease was too extensive, and he sunk in the contest.

Case 10. Private John Thomas, ætat. 26. In India 4 years.

Admitted 27th October, 1834, with symptoms of dysentery and much fever. Was bled and actively treated, and he appeared much relieved. About the beginning of November he suddenly experienced pain in the region of the liver, attended with rigors, cough, dyspnœa, fever, &c. Again copiously bled, &c., but he continued to suffer till the 12th, when his mouth became affected from the mercury, and the following day pus was observed in his urine with considerable relief. On the 13th the side appeared enlarged, and the matter in the urine was increased. From this date he continued to pass matter by urine daily, to the extent of from 1 to 3½ ounces in the 24 hours, till the 24th, when it began to decrease, and the side to enlarge and become more painful, the swelling extending across the epigastrium. His suffering now became so great, that an attempt was made on the 28th to open the abscess by cutting down the peritoneum with hopes of exciting an union with the external parietes of the abscess; but fortunately it was not punctured, for at that part (as was afterwards observed) there was no adhesion. He continued suffering severely till the 14th December, when he suddenly expired.

Dissection shewed an enormous abscess in the right lobe of the liver, which had destroyed the parenchyma, leaving a large cavity containing not less than 6½ pints of well-digested matter. No communication could be traced with the kidneys: the bladder contained about 2 ounces of urine and pus. The abdominal cavity was full of serum and purulent matter mixed together.

Great as has been the efforts of nature in this case, yet the ravages of the disease were too extensive to admit of relief. It is only astonishing so much was performed.

Case 11. Private Henry Jackson, ætat. 32. In India 8 years.

At one period stout and strong, but at present sallow and looks delicate. Has suffered for some time from slight hepatic disease, complicated with slimy, mucous stools and dyspepsia. Was taken into hospital on the 30th November, 1834, when he had slight pain in his right side extending to the shoulders, soreness

across the abdomen, loss of appetite, and general weakness : quick soft pulse and tongue, but no fever. Was actively treated and bled with partial relief to the pain of side, leaving merely a soreness in the region of the liver, with occasional headache, flatulence and debility. On the 5th January he complained of palpitation of the heart without pain, but on the following day the pain returned for two days in the right side extending to the epigastrium and left side : was much relieved by leeches, fomentations, &c. On the 10 of the same month his mouth became affected : ptyalism was copious, though pain and soreness continued more or less till the 14th, when pus was observed in his urine and afterwards in the stools, with evident relief to his suffering. On the 16 the pain and soreness again became violent, though he still continued to pass matter, but in smaller quantity :—after this the pain and soreness shifted from place to place, sometimes in the left side, sometimes in both shoulders or epigastrium and abdomen, with severe headaches, occasionally attended with returns of the palpitation, lassitude, cold sweats, dyspepsia, &c., with increasing emaciation and hectic symptoms. The matter passed by stool gradually decreased till the fifth February following, when it entirely ceased. After which he suffered comparatively little till the 10th April, when a marked change took place, and he got rapidly better, and on the 16th was free from complaint. On the 26th discharged quite well. Continues sallow, with pain at times in his side or belly, and dyspeptic, with griping or mucous stools occasionally.

This case is remarkable,—

1st. Passing pus by urine, and then by stool, and these with evident relief to his maladies.

2nd. The great constitutional disturbance and violent irritation from time to time, as well as the protracted convalescence, all indicating hepatic abscess, and its removal or excretion by the urine and by stool.

Case 12. Private Michael Leamy, ætat. 29. In India 6 years.

Delicate appearance, and sallow complexion. Has suffered much from an attack of splenitis, and subsequently, swelling of both feet. Admitted into hospital on the morning of the 26th April, complaining of pain at the epigastrium and in the left side, in the situation of the spleen, slight swelling of both feet, and great debility. The swelling pitting on pressure. He was relieved by leeches and fomentations ; but the following day he complained of pain in the right groin, along the course of the vessels, unattended by hardness or swelling. This was also relieved by leeches. On the 2nd May he again complained of pain in the epigastrium, accompanied with strong palpitation, also of pain in the course of the femoral vessels of both thighs, and about 9 p. m. vomited a large quantity of purulent matter, and the following day pus was observed in his urine. He continued to vomit it occasionally, but in smaller quantities. On the 5th he passed some pus by stool, but had ceased to vomit any ;—still had pain at the epigastrium and palpitation. On the 13th he began to cough, and on the 16th the cough became more severe, with expectoration of purulent matter. He continued to pass pus by urine, by expectoration, and occasionally by stool, until the 23rd, when his legs became more swollen with pain in the course of the femoral vessels. This was relieved as before, but the swelling continued slowly to increase, and on the 7th June he complained that his limbs felt dead, and that he tottered when walking. On the 4th of July the left leg and thigh became tense, elastic and swollen, and he had pain along the saphena and femoral veins, which felt distended and cord-like. Leeches were applied with relief, but the hands now began to swell ; and on the 11th the distention and pain of the vessels returned, extending as far as the ankle : the pain was again relieved by leeches, but the vessels continued distended and cord-like, with swelling and numbness of both hands and feet, and occasional palpitation. He again improved a little, the swelling of both hands and feet nearly disappearing, the cough ceasing, and

pus only occasionally seen in his urine. However, on the 21st, his belly was observed tumid, with evident fluctuation, and he had passed no urine for three days. Next day he made a small quantity which contained pus, and the belly became rather less. He continued in this state up to the 27th, when the left leg and thigh again became swollen, shining and elastic, the belly more distended, and the anasarca extending to the loins. He looked low and anxious, urine scanty and high-colored, still containing pus. On the 29th the left leg from the groin to the foot was much swollen, tense, and generally painful, and in some parts of a violet color, and felt cold. About noon he began to sink, and at 1 o'clock expired.

Section Cadaveris at 5 p. m. four hours after death, by Doctor Clark and Mr. Trail.

Great emaciation, abdomen tumefied, and left leg considerably swollen.

Head—Brain healthy.

Thorax—All the viscera small, but healthy: some fluid in the cavity of the thorax. No adhesion between the diaphragm and lungs.

Abdomen—Liver particularly small, apparently free from disease. Stomach small and contracted, with thickening of its coats, but no adhesion to diaphragm: cavity full of a muco-purulent fluid: scirrhus enlargement of the pyloric portion of the stomach: the parts externally had a cartilaginous feeling, and on cutting into them the coats were found thickened to the extent of about half an inch: the parts internally were extensively ulcerated, and several large fungoid carcinomatous-looking tubercles sprouting from the mucous membrane, and nearly closing up the pyloric orifice. Spleen wrinkled, and had something like a cicatrix on its upper surface. Intestines contracted and of a very pale color. Other viscera healthy: seven pints and a half of extremely limpid fluid in the cavity of the abdomen.

Extensive disease in the veins of the left inferior extremity. The diseased state commenced just at the formation of the vena cava, but did not affect that vessel—the iliac of the right side was affected for about an inch, but no more—the left iliac, external and internal: the femoral and all the branches were full of clotted and nearly organised blood, so as to render them almost impervious: this diseased state extended about half-way down the leg:—limb full of fluid, and a good deal of fatty matter in the sheath of the vessels; and on the thighs, considering the generally emaciated state of the subject.

This case is very interesting; as much from the diversity of symptoms, as the extent and variety of parts diseased, the pathological appearances, and their connexion with the diseased phenomena observed during life. It was regarded with much interest by most of the medical men at this station, and is remarkable as to,

- 1st. The vomiting of pus.
- 2nd. The pus observed in the urine.
- 3rd. The passing of pus by stool.
- 4th. The expectoration of pus.
- 5th. The swelling and disease of the veins of the lower extremities.
- 6th. The disease having the pathognomonic symptoms of beri-beri, and phlegmasia dolens or phlebitis in the male.
- 7th. The malady originating from scirrhus of the stomach, and therefore it is to be inferred, the pus expectorated and passed by urine must have got into the circulations from thence; since,
- 8th. There was no communication between the stomach and diaphragm, or diaphragm and lungs, or any traces of disease in the thorax.

The diseased state of the veins, and the attendant symptoms so illustrative of the three cases already sent to the Society, and the first of which was published in part 2, Vol. 7 of the Medical and Physical Transactions.*

* Vide Appendix, A.

Case 13. Private Charles Pearson, ætat. 21. In India two years.

Stout make, and pale, and leuco-phlegmatic appearance.—Admitted into hospital on the 21st August, 1834, with symptoms of acute dysentery. Partially relieved, but had relapses on the 4th and 18th September, 9th and 26th October, and again 7th November; and on the 21st November, or ninety-two days after admission, felt acute pain in the right side, extending to the shoulder. On the 23rd, pain in the right thigh in the course of the femoral vessels to the ankle, but this was relieved by leeches, fomentations, &c. On the 27th, again had pain in his right side and hip, but was relieved by leeches, and he continued easy and mending up to the 28th December, when he had some return of the dysentery. On the 1st January, 1835, had palpitation of the heart; and on the 5th, pain in chest and dyspnœa, and during the night slight delirium; and a feeling of sinking on the 6th, with frequent dark stools. On the 9th was again suddenly attacked with pain in right-thigh and top of the right shoulder, the femoral vessels felt hard and cord-like, with pain extending down the thigh and tibia: leeches applied. 10th, pain and dyspnœa much relieved. 12th, cough and dyspnœa when lying down. 15th, pain now in both legs along the course of the saphena veins, and they are swollen and tense, though relieved by leeches. 16th, feet observed to swell and continued swelling, but with less pain, till the 31st, when pus was observed in his stools. Feb. 2nd, pain now returned in the right-leg in the course of the femoral vessels with hardness: relieved by leeches and fomentations, 5th, pain from the tip of the right-shoulder extending down the side to the groin, and thence to the instep; femoral vessels hard and distended, with strong palpitation, also pulsation at the epigastrium and both iliac regions. 11th, severe pain again in the left-leg from the groin to the ankle, with swelling and hardness of the femoral vessels, also pain in right-arm from the deltoid muscle to the elbow; relieved again by leeches and fomentations: pus still passed by stool, and he is weak and appears sunk, and vomits every thing. 14th, much relieved. 15th, pain returned in the course of the iliac vessels of the left-leg and relieved by leeches. 16th, feet less swollen. 20th, left knee contracted, less pus in stools. 23rd, pain returned in the left-leg and foot; saphena enlarged and painful, also the femoral veins. 25th, bursting sensation in the left-foot. March 1st, pain still in the left-foot, with much swelling, tense and elastic; both legs feel dead, numb, and powerless: pus still in the stools. 5th, swelling of the right-leg diminishing, both knees contracted, strong pulsation in the right groin: relieved by leeches. 26th, much relieved; feet swell only whilst walking or standing: pus still in stools, but less in quantity. April 15th, pain in right iliac region, extending down to the knee: femoral vessels again hard and sore on pressure, also soreness in the saphena of the left-leg: relieved again by leeches and fomentations: no appearance of pus in stools since 1st April. May 5th, pain again in right shoulder, side, and groin, extending down to the inner ankle: relieved as usual by leeches, fomentations, and hip-bath. 6th, a good deal better. 12th, a return of pain in the right-side and epigastrium, but relieved by leeches. 13th, much better, and appears easy; slight numbness and bursting feel in both feet. 20th, mending, though slowly. June 12th, left leg and foot again swollen, and pit on pressure; the saphena distended and painful from the middle of the thigh to the ankle: relieved as before by leeches and fomentation. 16th, numbness in the left instep; the veins of both legs blue and much distended; palpitation on the slightest exertion: bowels regular. August 19th, bled; and the 24th, the vein became inflamed and ulcerated, pain and hardness extending up the arm, with hardness and stiffness, &c. 27th, saphena of the right-leg enlarged, painful, and full of knots much relieved by leeches and fomentation. 29th, relieved and doing well: only slight return of palpitation numbness of both feet. August 1st, some pains in both hips, knees and insteps: sixteen ounces of blood abstracted from the arm gave him relief. 13th, pains left him. 26th, veins of

both legs swollen from above the knees down to the ankles, and pain on pressure; also a tingling sensation on the outside of the left foot. 28th, pain and swelling of the veins left him. September 12th, return of pain in the left-foot, with heavy burning feel; veins not affected: a few leeches and fomentations gave him relief. 13th, pain gone, and succeeded by numbness. 29th, return of cough and dyspnœa and pains in all his joints. October 3rd, somewhat relieved by warm-baths and the usual expectorants. 18th, some pain again in both legs, and the veins are swollen; still cough and dyspnœa, with copious expectoration of phlegm mixed with pus: the affection of the limbs much relieved by leeches and fomentation. 21st, pain again on inside of both legs, right-side, and shoulder; the veins of the legs slightly swollen and painful: was bled to twelve ounces, and had some leeches applied with relief. 22d, cough continued, with copious expectoration of pus; much pain in femoral and saphena veins of both legs: obtained relief by leeches and fomentation. 23rd, cough much relieved; free expectoration of pus, which had been tested by sulphuric acid.—in the evening severe pain in the right groin, with thickening and hardness of the crural veins, and strong pulsation in them: relieved a good deal by leeches. 24th, much easier, less hardness of vessels. 25th, feels weak and low, less cough, and still expectorates pus. 26th, pus observed in urine; pain and hardness of the vessels entirely, left him; but in the evening felt a shooting pain in femoral vessels of both legs and had leeches applied with some relief; much pus in urine. 27th, feels poorly, less pus in urine, veins of the right-thigh greatly enlarged, sore and painful leeches applied with relief. 28th, veins soft and more elastic: less pus both in urine and expectoration. November 1st, severe return of pain again in the right-side and shoulder; increase of pus in urine: veins of both legs swollen. 2nd, had an attack of epilepsy, appeared delirious and insensible, and convulsed foaming at the mouth: pupils dilated: these symptoms were much relieved by leeches and a purgative enema, and in two hours was sensible and quiet. 3rd, slept well, and felt easy: much pus in urine. 4th, much cough with expectoration: a good deal of pus in urine. 5th, pains in calves of both legs; less cough and expectoration; increase of pus in urine; some palpitation: pus in small quantity observed again in stools.

This man is still in hospital, and under treatment, and the prognosis must, consequently be uncertain, if not unfavourable, though the swelling is gone down and he now walks about.

This case, however, is not only connected with the object of the present paper, but presents many features of great interest in its varying symptoms, and the textures assailed.

1st. The frequent relapses of dysentery, and these terminating.

2nd. In hepatic disease, and the frequent return of pain in the side: and this alternating.

3rd. With frequent attacks of inflammation; &c. in the veins of the lower extremities

4th. The phlebitis after *venæ sectio*, indicating both the morbid state of the habit, and inflammatory disposition of the venous system.

5th. The appearance of pus in the stools.

6th. The purulent matter expectorated.

7th. The pus passed by the urine with the invariable effect of relieving or quieting the constitutional disturbance.

8th. It becomes a question, whether the pus voided was from hepatic abscess, or venous inflammation, or both?

9th. The œdema, the anasarcaous tendency, the painful, tense, elastic swelling of legs and feet, the shooting pains, the contraction of the legs, the dead feel, or numbness in the feet, the tottering gait, the cough, the dyspnœa and affection of the chest, the palpitation, epigastric pulsation, and cardiac affection

the expectoration, the disease of the veins, the anxiety, the peculiar look of distress, &c., so indicative of violent constitutional disturbance, as well as being the pathognomonic symptoms of beri-beri, venous inflammation, and phlegmasia dolens*.

10th. Is too much to assume, that this man's life has been hitherto protracted by these discharges or excretions by the intestines, bladder, and expectoration; and that had it not been by the relief they afforded, he must have sunk from constitutional irritation and disturbance?

In looking over the thirteen cases, just detailed, it will appear, six have been fatal; six have recovered, though one of these had a second attack, which carried him off; and that one is still under treatment. Of the foregoing, eleven passed purulent matter by urine; and eight of these likewise by stool; and four of them pus by expectoration. But this will be more evident and better illustrated by the following table as one only discharged pus by the rectum, and three others solely by the bladder.

Table of Purulent Discharges.

Number.	NAMES.	PUS PASSED BY				REMARKS.
		Urine.	Stools.	Expectoration.	Vomiting.	
1	J. Ward	1	1	0	0	Recovered.
2	T. Rippen . . .	0	1	1	0	Do., but died the 2nd attack.
3	J. Gibson . . .	1	1	1	0	Died.
4	J. Young . . .	0	1	0	0	Recovered.
5	R. Mallalew . .	1	1	0	0	Died.
6	G. Kennedy . .	1	1	0	0	Ditto.
7	G. Munnings . .	1	0	0	0	Recovered.
8	M. Reddy . . .	1	0	0	0	Ditto.
9	M. Smith . . .	1	1	0	0	Died.
10	J. Thomas . .	1	0	0	0	Ditto.
11	H. Jackson . .	1	1	0	0	Recovered.
12	M. Leamy . . .	1	1	1	1	Died.
13	C. Pearson . .	1	1	1	0	Under treatment.
Total		11	10	4	1	

We shall add little to the foregoing cases, except that the deposits by stool, urine, and expectoration were examined in all the patients in the usual manner by the most approved tests, particularly the sulphuric acid, &c.; and though these be of a negative nature, still when taken together with the appearance of the matter voided, left no doubt of its nature.† Beside which, the previous symptoms in some, the swelling of the side in others, and the dissection in all the fatal terminations, are confirmative of the circumstance. One or two cases, selected to illustrate particular views, might create doubt, but there can be none where there were so many instances, many of them protracted, all closely watched by the other medical officers of the corps, and many of them viewed with great interest by professional friends; and where the dissections in the fatal cases were made by the assistants attached to the regiment, with the specific purpose of tracing, if possible, any direct channel of communication between those abscesses and the intestines, lungs, and kidneys. It is true, that in Case No. 5 there was a mixture of pus and bile in the gall-bladder, and no clue as

* Vide Appendix, A and B.

† Vide Appendix, B.

to the channel by which it got there; yet even in this case these was no direct communication by which to account for the purulent deposition in the urine.

May not the lateritious sediment observed by practical authors in some acute cases be of this nature? It is only of late years that animal chemistry* or pathological inquiry can be relied on. At any rate, has it not in several of our cases appeared critical,—in all affording more or less relief, and in some cases simultaneous with the affection of the mercury on the system? We are aware that this is not consonant with generally received opinions, or with Mr. Annesley's views in vol. 1, page 528, on the diseases of India. But we have seen too many cases of extensive disorganization in dysentery and hepatitis with death, notwithstanding the most free action of mercury. Still, as a general rule, it certainly holds, that the remission of acute disease is generally synchronous with pyalism, and its absence indicative of ulceration, and an unfavourable termination; and our experience would shew that the appearance of pus always tended to quiet the constitutional disturbance, and alleviate urgent symptoms; and though temporary in several of the cases, still its powerful influence and great importance needs neither further illustration nor more direct proof, and, if we may draw conclusions from the foregoing cases, it is by no means a rare event, and therefore the observations of others, it is anticipated, will confirm the accuracy of our statements.

J. MOUAT, M. D.

Bangalore, December, 1835.

Surgeon, H. M. 13th Dragoons.

APPENDIX.

A.

We are aware that phlegmasia dolens and phlebitis in puerperal females are still, by some, considered distinct and separate maladies.

Phlegmasia dolens is said to be of a rare occurrence and seldom fatal: phlebitis frequent and very dangerous. The swelling in the former *tense* and *elastic*, the parts quickly rising, and the fluid not to be drawn off by puncture; the swelling in the latter *pitting* and *œdematous*. The pathology of the one unknown, the other ascertained by multiplied dissections. Our cases have presented the swelling tense, elastic, shining, pitting on pressure, and œdematous in the same patient during the varied stages of the same attack, and which leads us to consider them different degrees or modifications of the same affection, both as to violence and the order of vessels and tissues implicated, as well as some peculiarity of action in the vessels themselves, as is seen after the application of blisters, where, though the discharge is generally watery and limpid, yet in some rare cases it becomes a gelatinous mass.

A minute analysis of the various histories of Beri-beri would be both interesting and important. It would, at any rate, promote inquiry, correct errors, and tend to elucidate its phenomena, and probably reconcile many of the apparent anomalies in its descriptions, as well as fix its connexion with other diseases; also desirable, as defining its nature when occurring as an idiopathic or acute affection, as well as its appearance in its more chronic and protracted forms, either as a sequela to, or conjoined with morbid states of the system: as for instance, at Rangoon in 1824, when prevalent in Sir A. Campbell's army, and complicated with a scorbutic habit.

* Dr. Prout's analysis is only one we have seen of critical deposits, and it is very possible it may not include every variety of these discharges.

B.

Mr. Mac Grigor, of H. M. 39th Regiment, has kindly favoured me with the following communication on the analysis of Pearson's urine.

"In undertaking at your request the examination of the urinary deposits which were supposed to contain pus, I was perfectly conscious of the difficulty of the attempt, both from the want of habitual practice in nice chemical manipulations, and also from the imperfect means and apparatus which I could procure. My examination, therefore, can only be regarded as *tentative*, and as furnishing only an approximation to the truth.

The first specimens with which I was favoured resembled much the appearance of pus diffused in water. But as the urine which contained the deposits was highly ammoniacal, I was led to suspect that some of the earthly phosphates entered into the composition of the deposits. From the amorphous appearance I suspected phosphate of lime. Latterly I obtained some fresh specimens of Pearson's urine, and in them no deposit took place till partial decomposition of the urea commenced.

On specimens of the earlier deposits I made some trials of the effect of sulphuric acid strong and weak, of nitric and muriatic acids. With strong sulphuric acid the deposit became red and then black when heated, but a great part remained undissolved in the bottom of the tube. With strong nitric acid, slightly diluted, a yellow tinge was communicated to the mass, with partial solution. When the soluble part was separated from the insoluble part, and slightly neutralized and tested with oxalate of potash, a white precipitate subsided, which readily dissolved in nitric acid; a similar precipitate was obtained by oxalate of ammonia, in the solution obtained from the deposit when treated with muriatic acid. By collecting the deposits which subsided in the urine of several days, about 9v. of the mass was obtained. When heated with diluted nitric acid and digested for some time and filtered, to separate the insoluble from the soluble part, the last substance was tested with a solution of silver; no change took place till the solution was neutralized by ammonia. When this took place, a mixed yellow and white bulky precipitate formed, which was soluble in an excess of ammonia, and also in an excess of nitric acid. When exposed to the light it soon blackened. This precipitate answers to the white perphosphate and yellow phosphate of silver, which becomes the blackened sub-phosphate when exposed to the light. The solutions then showed the presence of phosphoric acid and lime. The insoluble part washed, dried and weighed, amounted to grains x. showing a loss of 9ivss. which was dissolved by the nitric acid. This insoluble part was yellow when moist, but became by drying of a reddish brown color. This was again triturated and digested with carbonate of potash, (to make use of Grasmeyer's test) a part of the powder remained undissolved, but the solution became of an orange red color, which communicated a yellow tinge to the lime filter—in fact, had some resemblance to carbazotate of potash. This will require further examination.

The difficulty of determining the nature of the animal matter is very great, on account of the want of a proper test to distinguish pus when mixed with other substances. Sulphuric acid is mentioned as a solvent of pus by almost all chemical authors on the authority of Darwin. But Andral has lately made experiments which give another action to strong sulphuric acid. He found that all specimens of pus are invariably first reddened, then blackened by strong sulphuric acid. My experiments confirmed the latter view. Sulphuric acid had exactly the same effect on hepatic pus, on mammary pus, and on the animal matter, which existed in the deposits in Pearson's urine. Dr. Hope found, that albumen itself behaves in a similar manner, and fibrine of the blood is mentioned by chemists to have the same action under strong sulphuric acid. I treated some decolorized clot with sulphuric acid, and found the same action,—redness followed by blackening—to occur. Nitric acid converts pus into a

yellow flocculent mass, and communicates the same yellow color to the solution, and closely resembles the carbazotic acid procured by the action of nitric acid on indigo. The animal matter of the deposit had the same color. But then nitric acid renders the skin and other animal textures yellow.

In the course of the comparative experiments on pus, I found that some pus obtained from the mamma of a native woman (who is now six months pregnant, and who had a child eighteen months ago) when dropped into several boiling solutions, coagulated. When dropped into water only a slight appearance of coagulation occurred; in nitric acid a partial coagulum for a short while remained, but afterwards broke into a yellow powdery-looking substance; in boiling carbonate of potash and ammonia a perfect coagulum was obtained; in boiling muriate of ammonia a very consistent coagulum took place even in a very watery specimen of pus.

From most of these experiments, I am inclined to believe that we have no good test for distinguishing pus when mixed with any other substance. I should think that the eye would be the best means of detecting the presence of pus even in urine; taking care, in the first place, to make the examination before an ammoniacal state of the urine caused a precipitate of the phosphates; after which I am inclined to believe that no accurate deduction can be drawn as to the identity of the precipitate with pus. Tests can then only show with confidence the presence of phosphatic portion.

Some blood taken from this patient presented, as to proportion, about an equal division of clot and serum. Blood drawn about a week after to the amount of zvj . shewed a great excess of serum, while only a small part of the clot remained. On pouring off the serum in both cases and turning the clot upside down, several decolorized spots were apparent. When this clot was made to float in water, the pale parts freed from hæmotosine became more perceptible. Those white spots ran towards the centre of the clot, but tapering towards their termination. In the clot last obtained some of the pale masses became converted into an excavated scab, and had the appearance of lymph or pus dried. The rounded part in both cases looked like tubercle; or the masses described by Carswell, as appearing in the blood of the spleen of tuberculated subjects.*

IV.

CALCUTTA NATIVE HOSPITAL.

RETURN OF CASES OF HYDROCELE TREATED AT THE NATIVE HOSPITAL, CALCUTTA, BY J. R. MARTIN, Esq. BY A RETAINED INJECTION OF SOLUTION OF TINCTURE OF IODINE, from 9th March, 1832, to 31st December, 1837.

From 9th March to 31st December, 1832	..	..	..	32 Cases
For the year 1833	..	..	..	49
1834	..	..	..	86
1835	..	..	..	121
1836	..	..	..	332
1837	..	..	..	528
Grand total				1148 Cases.

* This report was read before the Calcutta Medical Society, and printed in their Journal.—Eds.

Of the above there have been reported failures by the iodine treatment	} 3 Cases.
Ditto in the experiment of ten cases treated with a retained injection of undiluted port wine	} 3 ditto.
Cases in which iodine succeeded after the previous failure of the port wine solution and that of sulphate of zinc ..	} 9 ditto.
Of the total cases treated there were	
Hindoos	545 Cases.
Mahomedans	559
Christians	41
Total	1148 Cases.

N. B. The details of treatment will be found at pages 204 and 411 of the 7th vol. of Medical Transactions of Calcutta, and at page 12 of the Quarterly Journal of the Medical and Physical Society of Calcutta.

V.

CLINICAL CONTRIBUTIONS FROM ADDENBROOKE'S HOSPITAL, CAMBRIDGE, FOR THE YEARS 1836—1837. By HENRY J. H. BOND, M.D.

In submitting to the notice of the reader the results of clinical observation, derived from hospital practice, the author may be excused perhaps in premising a few words in explanation of the mode in which he conceives such a source may serve to contribute most advantageously the records of medical experience.

Rare cases, extraordinary in their history, course, symptoms, or results, merit to be reported in such detail as is necessary to convey to the reader an adequate notion of them as distinct facts, and to present them in their individual prominence and peculiarity; and other cases may also be worth narrating fully and historically, where the object proposed is to estimate the value and success of a particular mode of treatment; but ordinary cases, having no such claim to especial notice, might still, it is conceived, *by a condensed report*, be made subservient to the general advancement of medical knowledge in its various branches: and by the cumulative evidence which they might afford in support or in the correction of the current doctrines and alleged facts of the day, compensate for their individual insignificance. They might likewise be made further useful, when derived from various sources, by representing the different phases a disease, familiar in its general features, assumes under different circumstances, as those of condition in life, topography, &c. Indeed it is by such a method chiefly, that the causes of diseases admit of being ascertained, and the assertions and generalizations of authors in their monographs of particular maladies may be submitted to verification.

The matter for consideration then is, how such an appropriation of ordinary experience, of common-place cases, to the elucidation or confirmation of speculative doctrines or practical principles can be best effected? The reduction of the elementary facts of such cases to formal tables would fail probably of accomplishing this purpose, both by the uninviting nature of the materials, and by the want of concentration in the results;—whereas, on the other hand, if all specification of the numerical amount of the facts, from which it is pretended to deduce the inference, were omitted, the method proposed would have no claim to more consideration, as furnishing *direct evidence* on particular points, than the statements of individual opinions which have been adopted independently of any rigid calculations of data, and which can be accepted only on the credit of

the author's sagacity or penetration. It is not meant that this latter mode of deriving principles from the general impressions rather than the rigid deductions of an extensive experience, *may* not be equally and even more valuable—may not embrace and represent larger and more important truths—it is only intended to maintain that the other mode of arriving at conclusions from a rigid analysis of reported cases has its separate usefulness, its peculiar value: the conclusions it affords may be more limited in their application, but they give the reader an opportunity of knowing the extent of the data from which they are derived and of estimating them accordingly—and moreover, such a method may serve as a test, a commentary on the results of the first and ordinary application of experience.

Without pretending to adhere rigidly to any particular plan, it will be the endeavour of the author in the following reports on particular diseases, to keep the above objects in view, and to combine something of the precision of the numerical method with the inductive tact which all practitioners must necessarily employ, in the attempt to render experience subservient to the advance of their professional knowledge.

It may be proper to preface these reports with a short account of the field and opportunities which Addenbrooke's Hospital affords for clinical observation.

The number of beds it contains has lately been increased from seventy-eight to one hundred, and there are seven large and two small wards in the principal building, and two wards in a detached building, mainly intended for febrile disorders, but applicable to the general purposes of the hospital at the discretion of the medical officers. All disorders are admissible; but, with the exception of accidents, each patient is required to have a recommendation from a subscriber. One day in the week is appropriated for the admission of patients, but practically there is no restriction for acute cases or such as require immediate assistance. Out-patients attend once a week. About half the number of patients, out and in-patients combined, are inhabitants of the town of Cambridge—the remaining half come from the county of Cambridgeshire and the Isle of Ely, from the contiguous parts of the adjoining counties of Essex, Hertfordshire, Huntingdonshire, &c. This circle embraces several considerable towns, furnishing a portion of the patients, as Ely, March, Wisbech, Royston, Newmarket.

The medical officers consist of three physicians, three surgeons, and a resident apothecary. Post-mortem examinations of patients dying in the hospital are rarely omitted, and not unfrequently opportunities occur for necroscopical enquiries among the patients dying at their own homes. No inconsiderable proportion of the morbid preparations of the extensive museum of the University is derived from this source. When practicable, notices of the operations to be performed are circulated among the practitioners of the town and neighbourhood, and their attendance invited.

An annual statement, financial and oeconomic, of the Hospital, is distributed among the subscribers—and, during the two last years, registers of all the cases have been kept, in which the several particulars of age, profession, residence, disease, duration of treatment and result, are recorded—from these a statistical report for the year 1836 was drawn up by the author of the present communication and published in the 6th volume of the "Camb. Phil. Transactions; a similar report has been prepared for the year 1837.

The reports will be confined principally to cases that occurred during the years 1836-37, and will be preceded by a short statement, chiefly statistical, of the comparative prevalence, &c., of each disease in the general practice of the hospital, derived from the registers; but the substance of each report will be limited to the contingent of cases which fell to the share of the author, and constructed entirely from an analysis of the notes taken of them in more or less detail, according to their respective importance, or the opportunities afforded for observation. They include the cases of the out as well as the in-patients.

DISEASES OF THE PULMONARY ORGANS.

Pulmonary affections, during the period under review, were by far the most prevailing diseases. The admissions under this head constituted 11 per cent. of all the cases, medical and surgical, including accidents. The following is the arrangement of the principal of them, in the order of their frequency of occurrence Phthisis—Bronchitis—Pneumonia—Influenza*—Laryngitis—Pleuritis—Pertussis.

PHTHISIS.

General Statement.—From a calculation made from the Hospital registers, it appears, that, during the years 1836, 1837, 5.29 *per cent.* of the males and 3.70 *per cent.* of the females admitted were phthysical patients; and that, reckoning both together, 4.43 *per cent.* of all the cases admitted during that period were of this description. The proportional distribution of the phthysical cases according to age was as follows:—

18.85	per cent.	were aged 20 years or under.
45.08	.	from 20 to 30 inclusive.
22.95	.	from 30 .. 40 ..
9.01	.	from 40 .. 50 ..
3.27	.	from 50 .. 60 ..
0.11	.	from 60 .. 70 ..

The deaths from Phthisis (as far as these were recorded in the registers) were 34.66 *per cent.* on the whole number of deaths, or nearly one in three. Among the males 27.65 *per cent.* and among the females 46.43 *per cent.* of the deaths were from Phthisis.

The circumstance of the proportional number of Phthysical *admissions* being much greater among the males, is mainly due to a larger number of females than males being admitted for comparatively slight disorders; while, the deaths from *accidents* occurring chiefly among the males, the proportional number of *Phthysical deaths* is thereby lower among the males than the females.

Analysis of Cases.—The cases under the immediate care of the author to which the following observations relate, were sixty-four in number, thirty-seven males and twenty-seven females—comparatively few opportunities occurred of verifying the existence of the disease by dissection; but no cases are included, of the pathological nature of which any reasonable doubt could be entertained.

CAUSES.

Constitutional Predisposition.—From an enquiry made in thirty-eight instances (twenty-five males and fifteen females) to ascertain whether or not there existed a family predisposition to the disease, there appeared sufficient evidence of such a predisposition having existed in nineteen, exactly one-half, of the cases—of these, eleven were males and eight females; *i. e.* 44 *per cent.* of the males and 53 *per cent.* of the females, of whose history any enquiry was made in this particular; if a similar result should ensue on a more extended enquiry, this would show that Phthisis more frequently arises in males independently of constitution predisposition than in females.

In the nineteen predisposed cases, the disease appeared to be inherited from the parents in thirteen, eight from the paternal, and five from the maternal side

* The Influenza of 1837, prevailed as much at Cambridge as elsewhere, and a large proportion of the hospital patients were affected by it, but comparatively few were admitted patients originally for that disorder.

—in ten, either with or without phthisical inheritance, other members of the family, brothers or sisters, had fallen a sacrifice to the same disease.

The mean age of the predisposed was twenty-two years, and of those in whom no such predisposition seemed to have existed was thirty.

Intemperance.—In six (one-sixth) of the male patients hard-drinking might be assigned as a probable cause of the origination of the malady, five of these independently of any family predisposition. In one only of the females could the same cause be assigned.

Influenza.—In two of the male cases, the disease originated after an attack of Influenza, in Feb. 1837; in another case (male) the disease became much worse after an attack of the same disorder, and in a fourth (male) the fatal termination ensued on a similar complication.

Atmospheric Changes.—Exposure to inclement weather and damp, seemed to have been the exciting causes in two instances (males).

Child-bearing.—In four of the female cases the disease either commenced or became confirmed soon after parturition or during protracted lactation.

Change from a long confinement in bed to a resumption of locomotion.—In one remarkable instance (female) not a symptom of pulmonary disease declared itself during a long confinement to the horizontal posture for disease of the hip, which terminated by ankylosis; the general health, and moderate embonpoint, except of the affected limb, having been maintained during the whole period; but from the time of the patient's leaving her bed and recommencing locomotion, phthisical symptoms promptly appeared and the disease proved fatal in a few months.

Violent exertion.—In two instances (males) the disease made its debut by sudden hæmoptysis occurring after unusual muscular exertion.

Influence of age.—The mean age of the total number (sixty-four) of phthisical patients was twenty-eight; the following table represents their distribution according to age.

20 years or under, males 8, females 10, total 18
from 20 to 40 inclusive, 21, 17, 38
40 to 60 8, 0, 8

Mean age of the thirty-seven males was thirty years and a half, of the twenty-seven females twenty-four years and a half. Mean age of fourteen fatal cases (nine males, five females) was thirty-three; of the nine males thirty-three, and of the five females twenty-one. If these numbers, few as they are, will warrant an inference, it would appear that, in the female, both the attack and the fatal termination occur at an earlier period than in the male.

Locality of Disease.—The following statement respecting the *locality* of the disease is introduced in this place, inasmuch as it was conceived to have some bearing upon points connected with its predisposing causes.

Casual observation had led the author to surmise that the disease *commenced* in the right lung* more frequently than in the left, and the object proposed was

* This is not in accordance with statements made by writers of the highest authority, among others by Louis himself, who have come to the conclusion from dissections, that the left lung is more liable to tubercle than the right. The author just named, it seems, was led to such conclusion by the following facts

to put this to the test of more accurate enquiry. The results of post-mortem examinations are, upon the whole, less calculated for the determination of this point than the careful investigation of the physical signs of the disease during life, dating from the earliest period of the malady, at which cases may offer themselves to the notice of the enquirer—since by the time the disease has terminated fatally, it has often invaded both lungs to such an extent as to render it impossible to conclude in which it had commenced—whereas, supposing the physical signs, understood as they are present, to be fair evidence of the presence and situation of the disease, accurate examination by auscultation and percussion during life may suffice, in a large proportion of cases, to determine, if not the exclusive seat, at least the situation of the largest amount of tuberculous deposit.

Where there already existed the *general* symptoms of the disease, dulness on percussion, absolute or comparative in corresponding points of the chest, combined with diminished respiratory murmur or increased vibration of the voice, were accepted as furnishing the lowest but still adequate amount of *direct* evidence of the locality of the disease, in the absence of other of the physical signs.

The following are the results of an enquiry instituted for the above purpose. In 55 cases, 33 male and 22 female, observations were made to determine by auscultation and percussion the principal locality of the disease. For the sake of brevity, the tables exhibiting numerically the distribution of the cases, according to their locality, are omitted, and the results, calculated on the proportions per cent., substituted.

One hundred cases, then, distributed in correspondence with the observations made in the 55 actual cases, would be thus represented, omitting fractions.

In 85, the disease existing exclusively or to the greatest amount in the upper lobe of one or both lungs.

In 15, the disease occupying both lungs equally.

In 56, the disease having commenced, or existing to the greatest amount in the right lung.

In 29, the disease having commenced, or existing to the greatest extent, in the left lung.

But, applying the same analysis to the male and female cases separately, this

principally. 1st. That having observed one lung exclusively affected only in seven cases, in five of these it was the left lung that was the solitary seat; and 2dly, that out of 38 cases in which the upper lobe was entirely occupied by tubercles and excavations, in 28 of these cases it was the left lung that was so affected; but assuredly the first of these facts is numerically too limited to warrant any inference one way or the other; and with respect to the latter, appertaining as it did to the termination of the disease, it is of so much value in determining the point of the priority of, or greater liability to, tuberculous invasion, as observations of the physical signs of the disease, made in its early periods and repeated during its course? Moreover, although priority of invasion of one part of the lungs by tubercles would, *cæteris paribus*, and more especially if combined with a greater amount of tuberculous deposit, render it probable that that part would be the first excavated—as is in fact the case on comparing the upper lobes with the lower—yet it by no means follows that the *same* external conditions, which might favor the early *deposition* of tuberculous matter in the lungs in one part rather than in another, would accelerate the process of *excavation*, when once softening of the tubercles had overtaken or superseded the process simply of deposition. On the contrary, if the views suggested afterwards in the text be correct, the very opposite result might be anticipated.

disproportion was found to be much greater for the former than for the latter; for in the male cases the disease exhibited this priority of invasion of the right lung over that of the left, in the proportion of 63 to 24, out of 100 cases; in the remaining 13 per cent. no priority being ascertained; whereas, in the female cases, this predominance did not exceed the proportion of 45 to 36, in 100 cases; in 19 per cent. no priority likewise being ascertained.

The following suggestions are hazarded, in explanation of the probable causes thus influencing the locality of the disease, with much diffidence and with every reservation which the limited sphere of the author's investigations requires.

The greater quiescence of one portion of the lungs than of another appears, *a priori*, a condition likely to favor the earlier deposition in it of tuberculous matter, or, which is the same thing, to dispose to that lesion of its nutrition which terminates in tuberculization. Now, not only does the form of the chest and the mechanism of respiration seem to denote that the upper parts of the lungs have less freedom of expansion in all directions, and undergo in *ordinary* inspiration comparatively less amplification in their dimensions than the inferior lobes—which have the constant play of the diaphragm, as well as the elevation and eversion of the ribs to maintain their expansion—but the mechanical circumstances under which the muscular movements of the superior extremities place the upper portion of the chest, especially in exercises requiring strenuous or sustained efforts, seem to conspire further in rendering the upper lobes of the lungs more quiescent than the lower—for, so far from the muscular contractions and sustained efforts of the superior extremities serving to expand the chest, as is sometimes asserted, they necessarily suppose that the upper part of the chest during these efforts remains more fixed and constant in its dimensions, in order to form a firm support, a *point d'appui*, for the exertion of the required force.—When the same muscles are used as inspiratory instruments, or in extraordinary respiration, the extremities themselves are first fixed, as is seen in persons labouring under orthopnœa, in order that such a function may be possible for them: and, by parity of reasoning, in their ordinary action, they must require that the part of the trunk to which they are attached should be more or less steady and fixed.

If this be accepted in explanation of the well-known fact, that tuberculization commences in the upper lobes, it will serve likewise to account for the additional fact (if it be such) of the priority of the right lung in liability to tuberculization of the upper lobe over the left lung; for, if the muscular action of the superior extremities causes the upper part of the chest to be comparatively fixed during such action, it is obvious that the right side will be more frequently and more steadily fixed than the left, and the upper lobe of the right lung comparatively more quiescent than the upper lobe of the left. The same reasoning perhaps will account for the priority of invasion of the right lung being more frequent among males than females. It has been observed, as stated by Dr. Stokes, that in some persons the respiratory sound is naturally more feeble in the right than in the left lung; this inferiority of sound may be considered as implying, from whatever cause, comparatively less freedom of expansion, habitually, in the act of respiration, which thus may favor the earlier deposition of tuberculous matter.*

* Is it possible that the action of the heart, by its alternate expansion and contraction, may add something to the advantage of the left lung over the right, by favouring the continual alternation in the dimensions of its lower lobe especially? The organs situated immediately below the diaphragm seem to contribute to the same result—viz. the greater quiescence of the right lung than of the left: for the permanence of volume and solidity of the right lobe of the liver in the right hypochondrium cannot be so favorable to the expansion of the

In connection with the present subject a remark suggests itself respecting pleural adhesions—there is no evidence, nor is it generally believed, that these are in all instances, or even most commonly, preceded by an inflammatory condition of the serous membrane; but it is evident that here likewise quiescence of the opposed surfaces of the costal and pulmonary pleura will greatly dispose to diminish the serous secretion, and thus probably favor adhesions—and hence the greater frequency of adhesions of the upper than the lower lobes. A case which lately occurred to the notice of the author, seemed to indicate that the mechanical confinement of the chest might of itself be sufficient to cause the adhesion of the entire periphery of both lungs. A female died suddenly, in whom no disease of the lungs beyond a single *earthy* tubercle in the summit of one of them was found, but there was universal adhesion of the pleura on both sides. From the previous appearance of the patient, and the inspection of the conformation of the chest after death, it was evident that this patient had habitually subjected herself to very tight lacing. That the use of tight stays favors the development of phthisis, must be still more apparent if the above view that is taken of the effect of the quiescence of the lungs be correct.

In conclusion, it is plain if quiescence of the upper part of the chest favors deposition of tuberculous matter in that region, there is on this, as well as other accounts, much room for judicious selection in determining the exercises proper for those predisposed to pulmonary consumption: and that especially such should be avoided as require violent or even sustained efforts in the muscles of the upper extremities, as rowing,* fencing, the use of dumb-bells, &c.—whereas such exercises should be preferred in which the muscular action is general, and distributed without any *stress* being thrown upon the muscles connecting the superior extremities with the thorax; while the necessity of inspiring more frequently and forcibly in consequence of the accelerated circulation, would prove more beneficial than otherwise. For the same reason, the exertion of the voice, as in reading aloud and singing, *previous* to the development of the disease, might assist in preventing it. The common remark of a person having *weak lungs*, however adequately it may denote, in unprofessional language, their condition when already tuberculous, conveys a very erroneous impression, when applied to those persons in whom only a *general* tuberculous diathesis may be suspected, if by such designation it is insinuated that care should be taken to avoid the full and free exercise of the lungs.

SYMPTOMS.

The Hectic.—Rigors recurring daily with more or less regularity, followed in about one-half of the instances by perspirations, were noted in a third nearly of the cases—they were present in six out of the fourteen cases which remained under observation to their fatal termination; but the mean time the disease had lasted, in those instances in which these phenomena presented themselves as prominent symptoms, was considerably below the mean duration of the disease in the total of the cases at the time of observation, indicating the hectic to be frequent, especially in the earlier stages of the disease.

lung placed immediately above it, as the variable capacity and pliability of the stomach in the left hypochondrium. It may be here remarked, that all the circumstances adduced in proof of the greater quiescence of the right lung being a cause of its earlier tuberculization, in a mechanical point of view, might be expected to act reversely in favoring the process of excavation—whence, should it appear that the left lung is more frequently or more early excavated, the difference of the results admit still of being reconciled.

* Rowing has been *recommended* by some, for those liable to phthisis.

In about one-third of the cases in which there were rigors, they recurred daily with periodical precision.

Profuse perspirations occurred in 22 cases, and at least as frequently in those in which the disease was comparatively recent, as in the more advanced stages—they were present in one-half the cases in which there was diarrhœa.

Emaciation.—More or less emaciation was observed in 45 of the cases, (about 70 in 100,) but it was excessive only in 27, less than in one-half, and since the mean time that had elapsed since the commencement of the attack in these, on comparison with the general average of the duration of the disease in all, was considerably below the latter, it would appear that this symptom is a measure rather of the actual rate in the progress of the disease, than of its previous duration—it was present in all the fatal cases with the exception of two.

Hæmoptysis, had occurred at some period or another in 34 out of the 64 cases (53 in 100), and nearly as frequently in the females as males. Its occurrence was more frequent among those above 30 years of age than those below 30—and this difference was greater among the male than the female cases. In one instance (male) the hæmoptysis was so copious and so frequent as to produce the symptoms usually observed in idiopathic anæmia.

Expectoration—Quantity.—The expectoration was noted to be scanty in 26 out of the 64 cases, and in two-thirds of these the duration of the disease had been short of the general average, in one-third it had exceeded it—in 14 only was it noted to have been copious, but in these the disease had lasted beyond the general average: this but agrees with the general statement that the expectoration for the most part becomes more copious as the disease advances. There occurred however some striking singularities in this respect. In one remarkable case, in which there existed every evidence which auscultation and percussion conjointly afford of the presence of a very extensive excavation, with the additional confirmation derived from the general phthisical symptoms, but which did not remain under observation to its termination, the patient while in the hospital never expectorated, and affirmed that he never had during the whole course of the disorder. In another instance the expectoration was scanty throughout, and latterly extremely so, in which after death a considerable anfractuosity cavity, with many smaller cavities, and a multitude of crude tubercles were found. In this case, the course of the disease was rapid, not exceeding four months from its invasion to its termination; there had been more than ordinary suffering from dyspnœa, and the internal organs generally were much congested with blood. May not the absence of expectoration have contributed to hasten the fatal termination, by preventing that balance between the circulating mass and quantity of the excretions, which compensates for the diminished efficacy in the lungs in producing the changes in the blood essential to its due assimilation with the structures of the body, and the maintenance of their growth or volume? In another case, in which the tuberculous matter was infiltrated, and there existed no cavities, but the cervical and bronchial glands were enormously enlarged, and the peritoneum also tuberculated, the expectoration was almost null through the whole course of the disease—and in this case also there was more than ordinary suffering from dyspnœa. In another case, which will hereafter be detailed, where the tubercles in the lungs, with the exception of one or two small cavities, were all crude, but where there was an extraordinary amount of tuberculous matter in other organs, the expectoration had all along been very trifling. In six out of eleven cases, in which pectoriloquy existed, the expectoration was scanty.

Qualities of Expectoration.—All descriptions of expectoration were met with,

which are ordinarily stated as occurring in phthisical patients, such as frothy mucous, puriform, &c. In seven cases it was noted as consisting merely of frothy serum, in one of which the disease was found after death to be confined entirely to the miliary form of tubercles;* but in another instance the same character of the sputa had been observed during life, when after death large excavations were found. With respect to the *form* of the sputa, these were noted as *globular* in 12 instances, and this form appeared to be predominant. Out of 17 cases in which any note was made of the *colour* of the sputa, in 11 it was remarked to be greenish, in three greyish, in two whitish, and in one yellow—the greenish colour persisted in those which remained under observation to their fatal termination.

Physical Signs.—By far the most constant of these, as might be expected, were diminution of the respiratory murmur, diminished sonoreity of the chest on percussion, and increased vibration of the voice as conveyed to the ear in auscultation of the chest. As one or other or all of these signs were present in most of the cases, but from accidental reasons frequently no exact mention is made of them in the reports, it is their comparative frequency of occurrence and the frequency of their coincidence, in those cases in which the results of auscultation and percussion are minutely recorded, that merit most notice.

Increased resonance of the voice in some part of the chest, estimated by comparison with the corresponding part of the opposite side, was remarked in 36 cases out of the 64; this includes every degree of increased resonance of the voice, from that which was limited to the communication of greater vibration to the ear or hand applied to the chest, to that producing the most decided pectoriloquy.

Comparative diminution of the respiratory murmur was noted in 29 cases. The condition of the lung which produces this phenomenon had of course in many of the cases been replaced by that more advanced stage which gives rise to other modifications of the respiratory sound, as the various râles, harsh, bronchial, cavernous, sucking respiration, &c.

Diminished sonoreity of the chest on percussion was noted in 30 out of the 64 cases—in all it corresponded to the upper lobes—in 22 to the right, in 11 to the left lung, in three only to both. It was the coincidence of this phenomenon in one or other of the sub-clavicular regions with diminished respiratory murmur and increased vibration of the voice, combined with general phthisical symptoms, which was principally attended to, in detecting the earlier stage of the disease, and from which it was attempted to infer the comparative frequency of priority of invasion in the two lungs respectively. This coincidence, taking dulness on percussion as the term of comparison, was as follows—of the 30 cases in which dulness on percussion was noted, in 14 there co-existed, in the *same situation*, diminished respiratory murmur, and in 21 increased vibration of the voice—also with respect to other auscultatory phenomena, in 12 of the 30 cases the respiration was observed to be in the same situation either harsh, bronchial or cavernous, in 15 there was some modification of râle, and in 3 instances the cough was jarring and successive on applying the ear to the chest.

COMPLICATIONS OF THE PULMONARY DISEASE.

Tuberculous Affections of other Organs.—In one case of an unmarried female, æt. 18, during the whole course of which there was the greatest obscurity in the

* The author possesses the notes of another case which occurred several years ago at St. Bartholomew's, in which the patient had had expectoration of the same quality to an enormous extent, and in whom only miliary tubercles of the lungs were found.

physical signs of pulmonary disease, extreme hectic, dyspnœa, cough without expectoration, being the only constant symptoms denoting the existence of phthisis—the granulations of Bayle were found disseminated throughout both lungs, but leaving them everywhere pervious to air; but the greatest amount of thoracic disease occurred in the bronchial glands, which formed an enormous mass compressing both bronchi, but especially the right. Agreeably to the observation of Andral, this condition was indicated by no determinate signs during life: the only sign observed during life which admitted of explanation by the results of necroscopical examination, was the bronchophony which had been frequently but not constantly remarked in the right scapular region, and in the same situation the chest was thought to be less sonorous on percussion than elsewhere. In the same case the cervical and mesenteric glands were similarly and to a great extent diseased, and the omentum converted into a cheesy mass. In another case, which will be given in detail, the very unusual complication (vide comparative table of Louis) of scrofulous disease of the kidney occurred; in the same case the testes, epididymes especially, and the prostate were in a similar state; the most distinctly tubercular form existed in the testes. Contrary to the assertion of Louis, that the disease is *always* most advanced in the lungs, in this instance the disease was very much further advanced in the kidney. Is it not possible that when, as in this and the last-mentioned case, the tubercles in the lungs do not advance and soften and there has been little or no expectoration, the tuberculous diathesis becomes more pervading and more readily leads to deposition in other organs?

Pneumonia.—In two cases there was an intercurrent or terminating attack of pneumonia.

Syncope.—In one instance of remarkably acute phthisis, the patient (a female) more than once, some weeks previous to her death, appeared on the point of dying from long-continued syncope—no dissection was made in this case, and there was some suspicion of an attack of pericarditis.

Ague.—In one instance the patient suffered in the course of the disease from a smart attack of this disorder.

Œdema, occurred in a noticeable degree only in 4 instances

Bronchocele, in a slight degree, formed a complication of the disease in one instance, a female.

Abdominal Disorders.—Gastric and intestinal disorders formed a very frequent complication—it was noticed in some form or another in 17 cases. *Diarrhœa* occurred in 12 of the cases; *peritonitis*, as ascertained by dissection, in two.

AFFECTIONS OF THE NERVOUS SYSTEM.

Headache was a very frequent and distressing symptom, especially among the female cases; it occurred as a prominent symptom in 9 instances, 7 of which were of females, *i. e.* about 1 in 4. In one case of phthisis occurring in a child, which is not included in the cases the subject of present analysis, the disease was complicated with *chorea*, from which she recovered, the phthisical disease advancing in the mean time.

Delirium in a slight degree was observed in 4 cases.

Amenorrhœa existed in 6 of the cases, making about 1 in 4 of the females of an age to menstruate. In these 6 cases the disease on an average had lasted 7 months.

COURSE OF THE DISEASE AND RESULT OF THE CASES DURING THE TIME THEY
CONTINUED UNDER OBSERVATION.

At the time of the admission of these 64 phthisical patients, the disease on an average, had existed 10 months—26 of these left the hospital alleviated in some degree, more or less: the mean age of these was 26½. In 2 of these 26, males, æt. 16 or 17, the disease which was sufficiently decided both by the physical signs and the occurrence of hæmoptysis, seemed to have been arrested, each having remained a year or more in the enjoyment, apparently at least, of perfect health. In 4 others the patients at the time of their discharge considered themselves as quite well, but still in their aspect and by the persistence of the physical signs betrayed the permanence of the disease.

Twenty-four, whose average age was 29, had become worse at the date of their discharge, or had received no benefit—many of these probably died shortly after their leaving the hospital. Fourteen, whose mean age was also 29, died whilst they remained hospital patients.

The following table shows the distribution of the admissions and discharges, marking the respective results, in the different quarters of the year.

Spring.	Summer.	Autumn.	Winter.	
20	16	18	10	Admitted.
6	8	6	6	Relieved.
8	4	9	3	Not relieved.
6	4	3	1	Died.

From which it would appear, taking into account the proportional admissions, that the Spring and Autumn were the seasons most formidable to the phthisical patients.

MODE OF TERMINATION OF THE FATAL CASES.

In 6 out of the 14 cases the fatal termination seemed to be due simply to the devastation produced by the original tuberculous disease of the lungs. In one by the *intensity* of the disease, (acute phthisis). In one by the combination of pulmonary congestion. In two by the supervention of pneumonia. In one by excessive diarrhœa and attendant disease of the intestines. In two by the supervention of peritonitis. In one the stress of the symptoms was in the urinary organs, in which the disease was the most advanced.

MORBID ANATOMY.

Of the lungs.—Under this head the cases afforded little with regard to the proper pulmonary disease that is deserving of further notice than has already been devoted to them in connexion with the history and symptoms. It may be remarked however, that in one instance, where there existed an extensive excavation in the upper lobe, the disease in the remainder of the lungs presented nothing that could be decidedly called tubercular, but exhibited the precise characters of the grey induration described by Laennec as designating chronic pneumonia. Miliary tubercles were the exclusive form of the disease in one case, and in another this form existed alone in one of the lungs, while the other lung contained likewise other larger tubercles, but still in their crude state. In both these instances the lungs were found in a state of pneumonic congestion. In the case already alluded to, remarkable for the amount of disease in the bronchial glands and where the tubercles were all crude, several of the minute bronchial ramifications contained a white matter, which was easily expressed in a vermiform shape and was of a soft caseous consistence—this is obviously favourable to the opinions of Dr. Carswell on the seat of the tuberculous matter of the lungs.

Of other Organs.—Tuberculization of the cervical and mesenteric glands, it has already been stated, was found in one of the cases. Peritoneal inflammation evidently of a scrofulous (tuberculous?) nature, was met with twice, *i. e.* in the

two cases in which the pulmonary tubercles either presented only the miliary form or were still in a crude state. This complication was not betrayed during life by symptoms of such urgency as attend ordinary peritonitis. The case in which with the pulmonary tubercle there existed a tuberculous state of the kidney, testes, and prostate, will be subjoined in detail. In two cases the mucous coat of the stomach presented the appearance denoted by the French *mamelonnée*.

TREATMENT.

Although it has been stated that a considerable proportion of the phthisical patients left the hospital more or less relieved, this improvement, it is probable, was in most instances more attributable to the advantages attendant on a change of residence or a proper regimen, than to the palliative effects of the remedies employed.

Setons.—If it is fair to conclude that in any of the instances the disease was arrested, when submitted to treatment in its early stage, this desirable event seems to have occurred in an instance in which a seton inserted in the sub-clavicular region formed the principal remedy. In this case, of a youth, who among other phthisical symptoms had had hæmoptysis, the disease has made no further progress up to the present time, an interval of two years.* In two other instances much relief ensued from the same remedy by the abatement of the dyspnœa which it produced.

Iodine.—In one case, apparently of incipient phthisis, considerable improvement took place in the patient's general health, while under a course of hydriodate of potash in small doses, but with this remedy was combined a change of air from the town to the country.

With respect to remedies employed as palliatives for particular symptoms, temporary good effects were not unfrequently obtained by them, but they soon became unsatisfactory in their results—and indeed it may be remarked that a general hospital is not the best calculated for furnishing even this partial relief to phthisical patients.

Expectorants.—The expectoration often diminished under the use of various remedies, especially ipecacuanha, and apparently in one instance, creosote; but this result was but too frequently attained at the expense of increasing the dyspnœa and rendering the cough more harassing. It was only therefore where the facility of expectoration was increased without affecting much the quantity, that these remedies appeared to have acted beneficially.

Emetics.—Where the hectic or dyspnœa was very urgent, and there was no contra-indicating condition, the exhibition of an emetic, in the few instances in which it was adopted, was attended with more decided though only temporary relief than followed from any other remedies, and this occurred even in cases very far advanced.

Quinine.—Sulphate of quinine in an acid mixture was frequently employed to combat the daily return of rigors followed by perspirations, and succeeded so far in about two thirds of the cases in which it was employed. This remedy

* Since the above was written, this individual presented himself at the hospital: on examination the dulness on percussion which had been noted under the right clavicle, and the vibration of the voice and diminished respiratory murmur, observed in the same situation, had entirely disappeared, and he had had no pulmonary complaint since his discharge.

seemed to be the only one from which the patients derived any appreciable benefit, under circumstances in which proper regimen and care could not be duly enforced—viz. among the out-patients.

Cupping, was sometimes employed with success in arresting hæmoptysis; likewise in one instance the *subacetate of lead*, and in another the *tartarized antimony* seemed to contribute to this result.

Any further analysis of the treatment employed in these cases it is feared, would only confirm the unsatisfactory nature of the results obtained by similar means in the hands of other practitioners.

APPENDIX.

CASE.—Crude Tubercles pervading both Lungs—Scrofulous Disease of the left Kidney and Ureter—of the Testes, Epididymes, Vasa Deferentia and Prostate.

R. T., æt. 24, servant, was admitted in-patient, March 8, 1838. For twelve months he had suffered pain in the back, and during the same period had been subject to some affection of the urinary system, producing frequent micturition, nine or ten times daily; according to his statement he had had no pulmonary complaint till a month previous to his admission, when he became short-breathed, and during the last week only he had been troubled by a cough, which was unaccompanied by expectoration.

At the time of his admission he was much emaciated, and had a hectic aspect. The gastro-intestinal functions were but little disturbed. He principally complained of an aching pain in the lower part of his back and sacrum, and of the whole of the left-thigh, with a weakness of the same limb, on which he could bear no weight, but which he could move when in bed—the other lower extremity had, he stated, been similarly but in a slighter degree affected, and had recovered—he had felt frequent twitchings of the flexors of the left-leg. There was no pain on pressure of the back, except opposite the sacro-iliac symphyses, and here it was slight. A swelling of a cylindrical form, rather firm and not tender, was observed in the course of the right spermatic chord. On a subsequent examination by the surgeon, there was found to be an obstruction to the passage of a bougie into the bladder, which, however, did not appear to be of the nature of a stricture—the urine was generally turbid and of a deep colour, as if containing blood.

He had a short ineffectual cough, was short-breathed, but never had hæmoptysis; neither on the first nor on subsequent examinations was there observed any decided dulness on percussion of the chest, nor any marked resonance of the voice. The respiratory sound was coarse in both subclavicular regions, and posteriorly it was nowhere distinct and natural, but replaced by rhoncus; on an examination a few days previous to his death, a loud creaking was heard under both clavicles, and large crepitation in the inferior lobes of right lung anteriorly—posteriorly large crepitation pervaded both lungs.

No mention need be made of the remedies employed, as they afforded no relief, and he continued without much variation in the symptoms, except increase of the dyspnœa and a rapid advance of the emaciation, till the day of his death, which occurred March 26.

Post Mortem Examination Twenty-four Hours after Death.

Chest.—Both lungs were studded throughout with immature tubercles, more numerous in the upper lobes. There were one or two small cavities of the size of hazel-nuts in the centre of the upper lobe of left lung. The left lung was much denser than the right, but this was produced by its being œdematous, especially in the central parts, the circumference remaining crepitous. The right lung was everywhere crepitous. There was sanguineous congestion in the posterior aspect of both lungs.

Abdomen.—The swelling in the situation of the right spermatic chord was found to have been produced by a scrofulous abscess between the abdominal muscles which had made its way in that direction. The left kidney was double the natural size, with an externally lobulated form; on its incision, the pelvis and calyces were found very much thickened and distended; the calyx belonging to the lower part of the kidney had, apparently, by its enlargement caused absorption of that part of the organ, and become a large sac, which was distended with a whitish granular fluid; the thickening of the walls of the calyces was produced by a layer of white granular deposit, one-eighth of an inch in thickness. The ureter of the left kidney was very much thickened, enlarged, and filled with cheesy matter, but pervious for urine. There was scrofulous disease of both testicles, which appears to have begun in the epididymis; the disease in the testicle itself was more distinctly tubercular, whereas abscesses existed in the epididymis; both vasa deferentia were much thickened and enlarged, and communicated with a scrofulous abscess of the prostate. The right kidney was slightly granular.

The kidney, testicles, and prostate, are preserved in the anatomical museum, from the catalogue of which the above description is principally taken.

BRONCHITIS.

General Statement.—The cases of Bronchitis, acute and chronic, constituted 2.69 in 100 of all the admissions during the years 1836, 1837; distributed in the different seasons as follows:—

Winter months	4.34	in 100 admissions.
Spring	2.75	.....
Autumn	2.57	.....
Summer	1.30	.....

The comparative prevalence, according to seasons, was in the same order for both years.

Analysis of Cases.—The following report is drawn up from an analysis of 27 cases under the author's care, including two cases, in which the disease occurred twice in the same individual.

CAUSES.

Influence of Age.—Of the 27, 11 were under 20 years of age.

3	between 20 and 40
11	.... 40 and 70
2	(occurring twice.)

Habit of Body.—*Antecedent Diseases.*—In three out of ten children, whose ages varied from 16 months to 12 years, there existed a scrofulous habit of body, a chronic defluxion from the nares, among other symptoms, sometimes forming an ordinary accompaniment of the bronchial affection.

In two the disease occurred in a cachectic state of the body, consequent on scarlet-fever, with dentition in one instance; and in two (one being also of a scrofulous constitution) it formed the sequela of measles; in one, likewise of a scrofulous habit, it succeeded an attack of influenza. In the adult cases (17) it was seldom that any other predisposing or exciting causes were traceable, beyond those usually assigned for ordinary catarrhal affections—a general cachectic state of the system, combined with thoracic deformity, might be alleged as a predisposing cause in one instance, and an attack of influenza as the exciting cause or debut of another.

Symptoms.—In 11 out of the 27 cases the disease presented the acute form, seven of these being of children; in the remaining 16, it was chronic. As the direct symptoms of the bronchial affection presented in none of the cases anything of unusual occurrence, it is unnecessary to occupy space in the consideration of them; in one instance, however, they were so intense as to threaten immediate suffocation.

Complication.—The most frequent complication was *anasarca*, which occurred to a greater or less amount in six cases, including two children that had had scarlet fever: next in frequency of the complications was distressing *palpitation* met with, independently it seemed of any organic disease of the heart, in three of the patients, all above 30 years of age; *scrofulous ophthalmia* existed in one instance in a child; some form of *gastro-intestinal disorder*, including one instance of *lunbrici* in a scrofulous subject, occurred in five of the cases; *convulsions* occurred in one of the children, and *cerebral congestion* formed a dangerous complication in one of the adult cases.

COURSE AND TERMINATION OF THE DISEASE.

Duration of Treatment.—The following table represents synoptically the duration of the treatment, in relation to difference of regimen (between out and in-patients), age, and acute or chronic nature of the disease,

Mean duration of treatment of (9) in-patients discharged recovered, 24 days.

(12) out-patients	34	—
(11) acute cases (recoveries)	24	—
(10) chronic	37	—
(9) patients under 12, (recoveries)	26	—
(12) ————— above 20 and under 70,	33	—

Results.—Twenty-one out of the 27 cases were discharged recovered, three benefited, and of the remaining three, the histories were incomplete.

Mode of Termination.—The following statements respecting two of the patients, comprises all that the cases offered remarkable under this head. In one case, occurring in a leuco-phlegmatic female, aged 24, during the prevalence of the influenza, the attack, which was acute and severe, and attended with loud bronchial râles, of a sibilous and rhoncous, and also of a mucous character, pervading both lungs, terminated by *resolution*, without there having been at any period the least expectoration. In another case, occurring in a corpulent female aged 40, subject to cerebral congestion, and previously a patient for slight paralysis attended with hysterical affections, the cessation of a severe attack of bronchitis, accompanied with copious expectoration, was promptly followed by symptoms denoting high *cerebral excitement and congestion*, and which required and yielded to active antiphlogistic and counter-irritant remedies.

Of the Acute Cases.—In the 7 ^{TREATMENT.*} acute cases, which occurred in infants and children, the principal remedies employed were *emetics*, followed by small doses of ipecacuan sometimes joined with antimony, where the febrile symptoms were high. In only one instance, of a boy, attacked with very severe bronchitis after measles, *V.S.* from the arm was employed, which had been performed previous

* The author cannot refrain from giving his humble testimony, derived chiefly from the observation and conduct of the cases under review, to the valuable therapeutic instructions in relation to this disease in Dr. Stokes' work on the diseases of the chest.

to his becoming an hospital patient. In another instance, a child aged 5 years, a secondary attack of the different lung appeared to be arrested by the application of a few *leeches*. In only one instance was a *blister* applied in the cases of the children, which was employed for, and removed a partial congestion of the lung which followed the bronchitic attack.

In one of the *adult acute cases* (3), occurring in a haggard old man during the prevalence of the influenza, and a very severe attack, the treatment of which commenced during its advanced stage, the disease yielded to the exclusive use of *tonic remedies*, such as ammoniacum, nitric ether, squills, and latterly quinine. In another case, of a corpulent woman aged 40, with very high fever and tendency to cerebral congestion, the primary stage yielded to a *V. S.* followed by small and repeated doses of tartarized antimony—the advanced stage yielded to the use of ipecacuan, hyoscyamus, and a blister between the shoulders. In the remaining adult case, occurring in a meagre female aged 23, recovery ensued under the antimonial treatment, with the warm bath, followed by ipecacuan as an expectorant.

Of the Chronic Cases.—In 5 out of the 10 adult chronic cases, *blisters* were employed and with good effect—they appeared to be of most service when applied between the shoulders. In one very severe case the greatest relief resulted from their repeated application.

Ipecacuan was used in several of the chronic cases, but as it was combined with other remedies of more striking efficacy, its share in effecting a recovery cannot be appreciated—in one case however, occurring during the influenza, recovery promptly ensued on its use joined with nitric acid and hyoscyamus.

Squill, as a principal remedy, or an adjunct, was used in a large proportion of the chronic cases, and frequently with relief to the symptoms, especially by rendering the expectoration easier.

Ammoniacum. By far the most strikingly beneficial results in the treatment of the chronic form of the complaint ensued on the use of ammoniacum mostly combined with squill. In some instances the effects were quite surprising—in aged persons, who for very many years had in all seasons alike suffered more or less from the disorder, the symptoms yielded to its use, even while they attended as out-patients during the severe weather. In the most memorable instance of recovery that occurred, ammoniacum was at first the only remedy, besides hyoscyamus and small doses of ipecacuan, used, and was quickly followed by manifest and progressive improvement.

Quinine, combined with ammoniacum and squills, where the disease attacked debilitated subjects in the chronic form was employed occasionally with apparent benefit.

Preparations of Iron, used in one of the cases, occurring in an old man, seemed to assist in restoring the strength.

Conium and Hyoscyamus were frequently employed as adjuncts to the expectorants, and were occasionally found equal to the removal of an irritative cough, remaining after the expectoration had ceased or abated.

Nitric acid was sometimes used with apparently good effect, and in one instance of recovery, was, with ipecacuan, the principal remedy.

Nitric Ether in very large doses, combined with the warm bath, was in one instance of extreme suffocative orthopnoea attended with prompt relief to the urgency of the symptoms.

PNEUMONIA.

General Statement.—The cases of pneumonia did not constitute one in 100 of the admissions—more than one-half occurred during the Winter months.

REVIEW OF CASES.

The cases of this disease, under the author's care during the years 1836-37, were too few to furnish by an *analysis* any results worth being recorded.

Danger arising from the complication with Bronchitis.—Allusion may however be made to one of the cases, the history of which seemed to shew that the structural alterations resulting from pneumonia in the chronic form and confined to one lung may persist without materially interfering with the general health and compatibly with the active avocations of life, as long as it is not complicated with bronchitis. In the case alluded to, of a robust man *æt.* 40, a college servant and of rather intemperate habits, there were present, both during the treatment and at the period of his discharge, the usual physical signs, denoting more or less solidification of the lung, viz. dulness on percussion, feeble and distant respiratory murmur, bronchophonia and bronchial respiration in the affected side, and puerile respiration on the sound side—the sputa being at one time glairy and occasionally sanguinolent, and the occurrence of fine crepitation proved that this solidification was the product of pneumonia—but the super-vention of the symptoms of bronchitis, at the period of his admission into the hospital, indicated the complication of a bronchial with a parenchymatous affection, and the suffering was then extreme from orthopnoea, &c. This complication yielded to the remedies employed, principally to the antimonial treatment, and the patient returned to his previous state, the physical signs of solidification of the lung still persisting. This condition has remained stationary up to the present time (12 months), the individual continues in his situation and his aspect does not betray the existence of any malady.

Fatal Termination of the Disease in a Child apparently from gaseous Distention of the Stomach and Bowels.—One other case deserves notice from the circumstance attending its fatal termination. A child aged 20 months, had been subject to shortness of breath from the time of being weaned (12 months), but was stated to have had cough but three weeks. The child died suddenly five days after becoming an out-patient of the hospital. On its admission the symptoms indicated impeded pulmonary circulation, attended with wheezing cough and occasionally sanguinolent expectoration. For some days previous to its death the child had had a ravenous appetite, which it was allowed to indulge without much discrimination in the choice of food; during the last three or four days the belly had become much distended, and on the day of its death, after a hearty meal, was enormously tympanitic, producing much increase of dyspnoea: in which state the child died rather suddenly. On examination the following day both lungs were found to be solidified posteriorly, portions of them sinking in water and presenting in their section a dark fleshy appearance: the bronchial tubes contained a good deal of muco-purulent secretion without the mucous membrane appearing much congested. The stomach and whole intestinal canal were found enormously distended with gas, the former containing partially digested food in small quantity: the mucous membrane, as far as there was an opportunity of examining it, was apparently healthy.

Remark.—It seems probable that, in this case, the distention of the abdomen being suddenly augmented by an improper meal, so impeded the motion of the diaphragm as combined with the solidified state of the lungs to produce sudden death. May not the *ravenousness* of the appetite have been produced by the increased surface of the stomach, consequent on its gaseous distention, preventing the *ingesta* being sufficiently embraced by that viscus, and thus by their presence not being followed by that sensation of *satisfaction*, which results from the due repletion of the stomach? It is well known that this ravenousness is a very common symptom accompanying dyspeptic and hysterical flatulence.

PLEURITIS.

General Statement.—This disease occurred still more infrequently than the last in the general practice of the hospital—more than one-half the cases were admitted during the Spring months.

Review of Cases.—The cases likewise of this disease, under the author's care were too few to render their formal analysis profitable—but one or two observations, suggested by a review of them, are subjoined.

SYMPTOMS.

Bronchophonia.—The physical signs of the early stage of pleurisy before any considerable effusion has taken place, it is well known, may be very obscure or inconsiderable. In one case, in which the disease, subjected to treatment very early, was sufficiently acute, and its nature unequivocally denoted by the presence of the pleuritic stitch with high inflammatory symptoms, the only appreciable physical sign that was detected, was bronchophonia over the affected side, while the respiratory murmur continued not sensibly abnormal—the bronchophonia subsided with the general symptoms, and the recovery was complete.

Creaking Sound accompanying Respiration.—This sound, resembling that of dry leather, though present in other affections of the chest, seems to be more particularly the accompaniment of that stage of pleurisy in which absorption of the effused products may be supposed to be considerably advanced—it may, as appeared from the cases to which these observations refer, be the only sound heard accompanying the respiratory movement, and may take place of the proper respiratory murmur: coming on in the convalescent stage of the disease, it may remain permanently after complete recovery—it was noted in one instance several months after the discharge of the patient, at a time when there remained no other indication of his having been the subject of any thoracic affection. This sound had none of the “rubbing,” “to and fro” character, described by some—it has not occurred to the author to hear the latter description of sound except in pericarditis.

TREATMENT.

The cases were treated on the ordinary antiphlogistic plan, and presented nothing unusual under this head. One instance may be quoted, in which the employment of calomel and digitalis seemed to contribute mainly to the absorption of the pleuritic effusion, when the late period at which the treatment commenced precluded the use of very vigorous depletion by blood-letting.

APPENDIX.

The following case is subjoined, as presenting a form of complaint, which the author is not aware has been before observed, or at least narrated, as a sequela of pleurisy.

CASE. Neuralgic Pain and Palpitation succeeding an attack of Acute Pleurisy in a subject, a coach-porter, æt. 25.

At the time of his admission into the hospital the acute stage of the pleurisy had long subsided, the attack having commenced in the usual way with pain inside, dyspnœa, and fever, fifteen weeks previously, and been treated by the usual remedies. The physical signs, in reference to the left side of the chest, indicated that a pleuritic product of some kind still remained; there being dulness on percussion, with total absence of the proper respiratory murmur at the infero-posterior aspect of the left lung, where only a “creaking” was heard—in front

the respiration was normal on both sides—the dyspnœa was slight, and there was an absence of fever. His principal ailment was severe pain in the cardiac region, extending to the left arm, and reaching down to the fingers, of a lancinating nature, accompanied by palpitation of the heart, and increased by motion of the trunk and deep inspiration. Nothing could be discovered abnormal in the physical phenomena of the heart's action beyond the palpitation. Leeching with perfect rest produced some abatement of the pain, and the palpitation was controlled from time to time by the fresh application of a belladonna plaster, digitalis being given in small doses during the same period. Still further improvement continued on keeping open a blister to the side for a week, but the symptoms again became more severe on his attempting to work in the garden. The pain, which was now described as “dragging,” commencing at the cardiac region, took a different direction, extending to the *crista illi*—it became again less severe on cupping over the region of the heart—the palpitation, in the mean time, had greatly subsided. As hitherto, the symptoms still indicated the persistence of pleuritic effusion; the patient was put upon a mercurial plan to the extent of producing a smart salivation; after which the respiratory sound was somewhat more developed, but percussion continued dull—he expressed himself however as feeling greatly relieved in his chest—subsequently there was a slight return of palpitation, and he still felt a constant though not severe pain in the cardiac region, extending backwards. A seton was then inserted in the cardiac region, and he was sent into the country, medicine being discontinued. The discharge was maintained for a month; in the mean time his strength was completely restored, but he still felt pain on walking, and had occasional palpitation—auscultation and percussion gave the same results as before—he was soon after enabled to resume his occupation as coach-porter, which he has since continued, and is apparently free from complaint. The treatment just detailed extended from the beginning of February to the middle of May.

The cases of other affections of the pulmonary organs were too few in number, and generally too ordinary in the phenomena they presented, to render either a synoptical review of them, or a selection of instance from among them, serviceable to the purpose of the present communication.

One exception may be made in favor of a case of croup, occurring about the age of puberty, which was memorable both for the extreme severity of the symptoms, and the success attending the vigorous and persevering employment of active remedies.

LARYNGITIS.

Case. G. M. æt. 14, a bricklayer's labourer, was admitted in-patient Jan. 11. 1836, in a state of extreme suffering, presenting all the symptoms of croup in the most aggravated form. The cheeks and lips were of a purple hue, and the general surface very chilly. The respiration exceedingly laborious, with long pauses between each inspiration, and accompanied with the croupy sound—and every now and then there was a loud ringing cough. There was tenderness on pressure over the larynx, and inability to swallow or articulate. The pulse was very irregular; a full and firm beat every now and then, being followed by several smaller and feebler pulsations. He was immediately put into the warm bath, and 12 leeches applied in the course of the trachea whilst he was in the bath; and the bleeding was afterwards maintained for three hours. The bath restored the temperature of the surface, and increased for a time the force of the pulse, but the croupy symptoms remained the same. Six grains of calomel had been laid on his tongue previous to his admission—mercurial inunction in both axillæ was now carried on vigorously by two assistants. At the end of three hours the improvement was but slight, the temperature being maintained, but the pulse again becoming feeble, although not so irregular—the respirations still

continued rare, and the paroxysms of suffocative dyspnœa as violent. Hot water was then applied externally over the larynx and trachea in a sponge half squeezed, and as hot as the nurse could bear, for eight or ten minutes. The inunction was repeated, and a purgative glyster administered, which acted well. By the evening a considerable improvement had taken place; there having been a reaction on the surface and in the pulse—the breathing had become much more tranquil; the paroxysms fewer and much less violent, and he was able to swallow; a grain of calomel was ordered to be given hourly. The remainder of the case need not be given in detail, as the improvement subsequently was uninterrupted and rapid; so much so that in two days from his admission there no longer remained any of the symptoms peculiar to croup. The mercurial treatment was continued during the first 24 hours, and then followed by small doses of tartarized antimony; the gums were only slightly affected; the pulse did not entirely recover its rhythm till a day after the subsidence of the croup. He was reported convalescent on the 16th.

DISEASES OF THE HEART

General Statement.—Inflammatory and organic affections of the heart in the years 1836-37 furnished no more than 0.6 per cent.

RHEUMATIC AFFECTIONS OF THE HEART.

General Statement.—The participation of the heart in rheumatic affections of the system generally, is by no means of unfrequent occurrence among the patients of this institution, but at present there are no data to establish the proportion of cases presenting this complication.

ANALYSIS OF CASES

SYMPTOMS.

Rheumatic Origin—Form of the Disease.—As in all the cases the patients were subject to attacks of ordinary rheumatism in various degrees, antecedently to, or contemporaneously with, the affections of the heart, it may be inferred that the latter was in each instance of a rheumatic origin and character. It would appear also from Case 2, (vide Appendix) that *pericarditis* does not uniformly constitute the primary or chief form of the cardiac disease in each attack; for in this instance dissection showed that, while the traces of disease of the pericardium indicated only a remote and partial attack of pericarditis, the disease of the mitral valves and interior of the left auricle, indicated an attack of endocarditis, which from the nature of the appearances presented must have been of a much more recent date. Case 4 seems to the author to present a very common form of rheumatic affections of the heart, but which form the milder character of the symptoms has not met with the same consideration as the more acute form.

"To and fro" Sound.—In case 1, which from the completeness of the symptoms may be regarded as presenting a perfect type of pericarditis, and has been accordingly subjoined in greatest detail, the value of this sound, the "to and fro" sound, was well displayed: its quality, expressive of friction between the two surfaces; the coincidence of its first occurrence with the period of marked subsidence of pain and dyspnœa; its continuance for a short time, a few days only; combine to shew that its presence characterizes a stage, a favourable passage in the history and course of the disease—and this instance is quoted in confirmation of the explanation ably give of this sign by Dr. Watson—that it supervenes

when the absorption of the effused fluid has advanced so far as to permit the contract of the free and the reflected pericardium, and is the first step towards the adhesion of the two surfaces, an ultimate condition, which may be often considered a fortunate result, as accomplishing the, for the most part, only attainable degree of reparation of which the disease, when extensive, is susceptible.

Bellows-murmur.—The subjoined cases intimate, it is conceived, that the occurrence of this phenomena is by no means invariable, but that every other ordinary symptoms may exist to denote the presence of the affection, that the disease may recur several times, and its usual consequences in embarrassing the circulation be observed for a considerable period of time, and yet the sounds of the heart betray nothing abnormal in their quality. This remark appears to be borne out by the cases 4 and 5, in which organic affection of the heart of a rheumatic origin, it can scarcely be doubted, existed. Cases of chronic affections of the heart, may be very severe in respect to other symptoms, yet (as far as the instances under review can establish the fact) be compatible with a return to the ordinary exertions of active life, if they have never been accompanied in their course with a bellows-murmur; and as such a compatibility almost supposes the functional integrity of the valvular structure of the heart, this would appear to favor the notion that all modifications of the sounds of the heart, even a low degree of bellows-murmur, essentially depend on the condition of its valves; and that the force and abruptness of the ventricular contraction can only so far produce this change, inasmuch as such inordinate contraction may virtually interfere with the due action of the valves, for if force and abruptness of contraction were *alone* adequate to the production of such a sound, they would have caused it in the cases 5 and 6, in which they existed as prominent symptoms. (The occurrence of the bellows-murmur in anæmia and chlorosis is by no means repugnant to this view—in which affections, though unattended with textural degenerations, the physical relations subsisting between the muscular and valvular apparatus of the heart and the quantity of blood to be moved, may readily be conceived to be very different from those which obtain in the healthy state of the general system.) With regard to the situation of the bellows-murmur it may be observed that, in one instance (case 3), the intensity of this sound was much greater behind than before; it is possible that this might be accounted for by the consideration of the lung (consequent on the pleurisy which was present as a complication) furnishing a more solid and therefore better conductor of sound.

COMPLICATIONS.

Pleurisy.—Inflammation of the pleura seems to have co-existed with the rheumatic affection of the heart in two out of the five cases. In case 3 its presence was unquestionable; in case 1 the shifting of the principal pain at one time to a distance from the præcordial region,* and the occurrence of bronchophony seemed to denote also a pleuritic complication. May it not still be a fact, notwithstanding that some pathologists are at issue with Laennec on this point, that in all cases where the pain is extreme, as in these two instances, the pericarditis is associated with acute inflammation of the neighbouring pleura; and thus, the occasional occurrence of acute pericarditis without pain being a prominent symptom, admit of a ready explanation?

Pneumonia.—In addition to the two cases cited as being associated with pleurisy, in a third case (2) the disease was complicated with a double pneumonia, which was the immediate cause of the fatal result.

* This circumstance, not stated in the report, occurs in the original notes of the case.

MORBID ANATOMY.

Endo-carditis. The appearances described in case 2, of the mitral valves and internal membrane of the left auricle, it is imagined, must have been the result of recent inflammation; this is inferred from the softness of the deposit, the facility of its removal and its accurate resemblance, especially that of the internal surface of the left auricle, to the recent products of inflammation in other surfaces. The different state of the coagula found in the left, the diseased cavities of the heart, from those occurring in the right, is perhaps not altogether undeserving of notice. It is likewise observable that in this case there was considerable contraction of the auriculo-ventricular opening, although the deposit was soft and apparently recent.

TREATMENT

Setons.—allusion is made to the treatment adopted in the cases under review, chiefly for the purpose of attesting strongly the value of one remedy, the seton, for although not unfrequently used in conjunction with other means, its importance as a remedy of the first rank in *acute* cases, has not been duly appreciated, and its *early* adoption, has not, it is thought, been sufficiently attended to.

As a remedy in the advanced stages and in the chronic form of the disease, a seton in the præcordial region has obtained credit with most writers, but has not been so readily acknowledged to be serviceable in the very earliest state and most acute form of the disease; yet in four out of the five subjoined cases it was employed with apparently good effect in all; but the most prompt and decided relief ensued from its adoption in the acmé of the most acute of the cases (1). The report but imperfectly conveys the entire change in the condition of the patient, the restoration to comparative comfort, which took place from the moment the discharge from the seton was established; and from that period there was no return of any pain or dyspnœa: it is not implied that the other concurrent remedies were not at the same time both essential and serviceable. A similar instance occurs to the recollection of the author of decided relief to the symptoms in a case in which the state of the patient was still more alarming; it happened many years ago in the practice of Dr. Roberts, at Bartholomew's in the instance alluded to, with symptoms plainly denoting an affection of the heart, there was combined a typhoid condition, indicated by a black tongue, delirium, &c., but the whole aspect of the case was changed by a fortunate recurrence to a seton, and the patient rescued from imminent danger.

Iodine.—This remedy, in the form of the hydriodate of potash, seems on the showing of the subjoined cases, to merit being ranked high among those of subordinate secondary importance. It can, still less than the seton, supersede the use of blood-letting and mercury; but in aid of the latter, or when it is desirable to suspend or discontinue its use, iodine seems by no means an insignificant resource. In case 5 it appears to have arrested a third, though slight relapse of the disease.

APPENDIX OF CASES.

CASE I. *Acute Pericarditis. Occurrence of the "to and fro" Sound—its Subsidence, Permanence of the Bellows-Murmur: Great Relief from a Seton.*

S. H. aged 18, was admitted in-patient April 4, 1836; she had previously had rheumatic attacks apparently unaccompanied by any affection of the heart, but she was habitually rather subject to palpitation. The present attack commenced a fortnight before her admission, and besides the then existing symptoms, there has been during this time, till, within a day or two, slight articular rheumatism.

On her admission the lips were pallid, cheeks injected, and the ground of the complexion sallow—the tongue was moist, covered with a brownish fur in the centre, and red at the tip—the appetite was tolerable and the bowels regular,

She was then suffering severely from pain seated principally in the cardiac region but extending outwardly, increased on inspiration, coughing and twisting the trunk—there was great tenderness on pressing between the 5th and 6th ribs near their cartilages—the breathing was hurried, the *alae nasi* dilating widely on inspiration—the pulse was 128, vibrating, and rather full but soft. The heart beat tumultuously, and a loud bellows-murmur was perceptible under left mamma, synchronously with the first sound.

She had been bled in the arm and leeches and blistered in the side previously to her admission. Calomel and opium were now ordered, at first in large doses (Cal. gr. viij. Op. gr. j.) afterwards it was continued in smaller and more frequent doses, and latterly only to the extent of Calom. gr. j. Opii. gr. ss. three times daily—with this was combined the use of sinapisms applied from time to time to the cardiac region. This plan was persisted in for a fortnight, no pytalism ensuing. In the mean time the pain and the dyspnœa had on the whole considerably abated, though subject to occasional aggravations which were relieved by the sinapisms—the tenderness was almost entirely removed—the bellows-murmur persisted with some abatement. The pulse was reduced in frequency, generally less jerking, but very excitable—there had all along been cough with some serous expectoration—occasionally slight rheumatic pain and swelling of the joints had occurred; and there had been profuse sweating. Her aspect however had disimproved; her complexion becoming very waxy.

At this stage of her complaint a seton was inserted under the left breast and from the time that it began to discharge (in about three days), she never had any return of pain, and all urgent dyspnœa had ceased. Three or four days subsequent to the insertion of the seton she was put upon an iodine-treatment in conjunction with the calomel and opium in reduced doses. This plan was continued for 18 days (from the 22d April to the 10th May)—with the above remedies for the greater part of the time was combined the use of digitalis in small doses and mercurial inunction. During this period, new symptoms had declared themselves, and further changes ensued; two days after the seton had begun to discharge, and when the patient's sufferings had greatly and rapidly abated, another sound besides the bellows-murmur was for the first time perceived—this was the "rubbing" the "to and fro" sound—it extended over a large surface, as high as the cartilages of the third and fourth ribs, and across the sternum—it was loudest a little to the right of the left nipple. At this time the chest emitted a dull sound on percussion, in the cardiac region from below the cartilage of the fourth rib, and extending laterally to the outer margin of mamma (about four inches square)—there was slight bronchophony at the roots of both lungs.

In about eight or ten days from the time the rubbing sound was first perceived, it had greatly diminished, and in twelve days was no longer perceptible—the bellows-murmur continuing. In the mean time the seton still discharged, and slight pytalism had been produced—the general improvement in her condition had been maintained and even progressed.

Towards the conclusion of the period during which this plan, as stated, had been pursued, nausea and vomiting occurred; the iodine, digitalis and mercurials were in consequence discontinued—the inunction was at a subsequent period resumed in reduced doses. The gastric disorder soon ceased—the gums continued sore for about a week, but she was allowed to improve her diet; in about ten days from leaving off the medicine she was able to walk in the hospital garden; and on the 30th of May, eight weeks from her admission she was discharged, but told to attend as an out-patient. At this time the seton still discharged; the bellows-murmur was as loud as ever accompanying the first sound, the second sound of the heart was clangorous, respiration was audible in front of the heart on deep inspiration; she only suffered from slight dyspnœa and palpitation on ascending stairs. No treatment of importance, with the exception of maintaining the discharge from the seton, which was however gradually

ceasing, was adopted while she continued an out-patient, and she was finally discharged on the 16th of May, considering herself quite well.

She presented herself at the hospital again in September 1837. In the interval she had married, and had a child—during her pregnancy she felt very well; since her confinement had had rather more palpitation, and was more short-breathed: the bellows-murmur continued, but upon the whole she seemed to be in the enjoyment of good health.

CASE II. *Endo. carditis—Double Pneumonia.* R. B. *æt.* 27, carpenter, spare, and of intemperate habits, was admitted in-patient January 4, 1838. He had two previous rheumatic attacks, the last occurred two years before, from which time he had been short-breathed, and suffered palpitation on slight exertion. The present attack commenced a month previous to his admission, affecting the shoulders, loins and lower extremities, and during the whole month the palpitation had been constant and more violent. At the time of admission the face was pale and the features drawn and the tongue tremulous; the chief pain was down the right side of the trunk and in the right shoulder, and the perspiration was profuse. The impulse of the heart was excessive in the cardiac region, but there was no unusual extent of dulness on percussion; there was a loud bellows-murmur, and the pulse was 90 and small.

Sinapisms were ordered to be applied twice daily over the cardiac region, and Calom. gr. j. Opii. gr. ss. to be taken three times a day.

This treatment, varied in degree, was continued for twelve days, no pytalism had been produced, and the pain had ceased and the palpitation much abated; but he complained of feeling weak and low, and the remedies were suspended. Shortly after he was attacked with cough, and in two days his condition had greatly deteriorated; the cough was dry and paroxysmal, causing a feeling of constriction at the sternum—no râle was perceived, but the respiratory sound seemed rather in excess in the left lung and in the lower lobe of right lung, while in its upper lobe the murmur was feeble—there was no dulness on percussion.

The impulse of the heart was increased, and the pulse 120 and undulating; the countenance was anxious and the eyelids puffy; leeches were ordered to the præcordial region and a sinapism to the epigastrium. On the following day the symptoms were less distressing, but he was pale and very weak. An occasional small dose of carbonate of ammonia was given to revive him. On the next day, the 20th of January, the dyspnœa and cough were much increased; there was expectoration streaked with blood, and fine crepitation was now heard in the infra-posterior region of the left lung—the heart was beating tumultuously and the bellows-sound very loud; the anxiety of the countenance extreme. In this state he could not be prevented from returning to his own home, where he died the same evening.

Post Mortem Examination Fourteen Hours after Death.

A few ounces of straw-coloured fluid were found in the pericardium. A smooth white patch of adventitious membrane covered the pericardium at the anterior surface of the heart, and there were several small tough cellular bands connecting the parts at the base of the heart. The heart was double its usual size, the enlargement being produced principally by the increased dimensions of the left side—the right cavities were, however, dilated; there was but little thickening of the muscular parietes of the left ventricle, while its cavity was much dilated, and was filled as well as the left auricle with soft and uniformly dark coagula—the right cavities contained less coagulum, which was firmer, and some portions free from colouring particles. The mitral valves were studded with soft caruncular excrescences, readily detached from the surface, and extending to and incrusting

several of the chordæ tendinæ : a similar deposit, but more distinctly granular, covered the internal surface of the auricle—the left auriculo-ventricular opening would admit only two fingers.

The upper lobes of both lungs, in their central portions especially, were red and indurated (second stage of pneumonia), the lower lobe of left-lung was red and gorged (first stage of pneumonia).

CASE III.—*Acute Pericarditis complicated with Pleurisy.*

J. W., aged, very slender and tall, laborer, was admitted in-patient, January 4, 1838. For several years he had been incapable of hard work from being subject to attacks of pain in the chest, and rheumatic affections of the limbs of no great severity. During the whole of the Winter he had been ailing from pain in the left side of the chest, unaccompanied with any cough. A week previous to his admission, his wrists and knees had been swelled and painful—he was extremely emaciated, with a wan and pallid countenance—was breathing quick and laboriously, with dilatation of the alæ nasi, and there was an expression of the greatest anxiety.

The respiratory murmur was puerile in right lung, and more so in upper lobe of the left lung, while opposite to the inferior angle of the left scapula, there was ægophony and bronchial respiration; below this level, on the same side, there was in the postero-lateral aspects of the lung, complete dullness on percussion and absence of respiratory sound. With this there was extreme tenderness on pressure between the sixth and seventh left ribs in the præcordial region—this region was considerably elevated—a loud and very harsh bellows-murmur, accompanied the first sound of the heart. The pulse was 96, weak small, and soft. He denied ever having suffered materially from palpitation.

Leeches were applied over the region of the heart, and bled freely in a poultice, for a whole night; and antimonial draughts were ordered to be taken frequently.

On the following day the relief that had taken place was striking; all anxiety of expression, and urgency of dyspnœa and tenderness were gone. The treatment for the ensuing 10 or 12 days was chiefly confined to the antimonial mixture, a blister between the shoulders, and latterly mecurial liniment to the left side of the thorax.

All symptoms of acute inflammation of the pleura had subsided from the time of the application of the leeches, and the ægophony had soon disappeared; but dullness on percussion, and absence of respiration in the lower aspect of left lung, with bronchial respiration in other parts, indicated that there still remained effusion in the left pleural cavity. The pain in the region of the heart occasionally threatening to return, leeches were subsequently repeated, and cal. gr. j., opii, gr. ss. or to be taken three times a-day, which was continued for nearly three weeks, the antimony having been left off: a seton likewise was about the same time inserted in the præcordial region—from this time there was no return of pain in the chest, and his general health improved greatly: the bellows-murmur was undiminished, and was now remarked to be louder behind than in front: the second sound of the heart was slightly clangorous, and percussion was still dull for the space of about four inches square in the region of the heart: and the conditions before noticed in the inferior portion of the left-side of the chest still remained; in other respects he recovered so as to admit of his being discharged on the 6th of March. On his presenting himself at the hospital some weeks afterwards, though incapacitated for labour, he made no complaint of any suffering.

The physical conditions, as ascertained by the exploration of the chest, remained the same.

CASE IV.—*Frequent Attacks of Cardiac Affection, unattended by any Bellows-murmur in a Rheumatic Female.*

M. J., æt 25, laundress, having embonpoint, florid cheeks, but general complexion and lips pallid, had, for several years before her last admission in March 1837, been subject to rheumatism of a subacute character, accompanied each time with symptoms of affection of the heart, and in the intervals suffering from the same symptoms in a slighter degree.

The principal symptoms of heart-affection were palpitation and inordinate impulse of the heart; pain, with some tenderness in the præcordial region, and dyspnœa of moderate intensity, but at no time was any bellows-murmur to be detected—the urgency of these symptoms yielded to cupping and setons, maintained for a considerable time, in the region of the heart. Since her first attack she has always been subject to palpitation and dyspnœa on a slight exertion, but has still been capable, except at intervals, of pursuing her occupation as laundress.

On her last admission, for general subacute rheumatism, with a recurrence of pain in the region of the heart, the latter readily subsided on the application of leeches.

CASE V.—*Rheumatic Affection of the Heart, unattended by any Anormal sound—benefit from Setons, and apparently from Iodine.*

H. S., a girl, æt. 13, was admitted in-patient Dec. 10, 1835. She had been subject to palpitation of the heart, and nine months previously had had a rheumatic attack, affecting the right-side of her chest. Five days before her admission, after an accession of rigors and faintness, she was seized with pain at the chest, and at the time of entering the hospital was suffering from wandering pains in the thorax, back, and limbs increased by warmth in bed, and attended with sweating, but she complained most of pain under the cartilages of the left hypochondrium, extending to the back, and increased by pressure under the hypochondrium and on inspiration; with this there was violent palpitation, and great excitability of the heart, the pulsations being extremely rapid at one time, as on changing from the horizontal to the upright position, and at another, falling below the usual standard of frequency—but there was no anormal sound of the heart, nor any tenderness on pressing between the intercostal spaces; while the impulse in cardiac region was great. Colchicum, sinapisms, cupping, Belladonna plaister were employed, and the pain was removed without any abatement in the other symptoms: the relief to the pain was likewise uncertain, and only yielded for a time to the repetition of the colchicum—a seton was then inserted in the cardiac region, 19 days after her admission, and at the expiration of three weeks, the palpitation was much abated, and, ceasing to suffer any pain, she was made out-patient. But in a few days she was again seized with excessive palpitation, laborious respiration and pain under the left-breast; cupping, castor-oil, cal. gr. j., night and morning, were ordered, and the calomel was continued for about a fortnight; but little amendment ensuing, a second seton was inserted, and in a week's time was attended with the same relief as the first: during a month from the insertion of the second seton, small alterative doses of calomel or blue pill were continued, but no further improvement took place. Iodine, in a mixture, containing the hydriodate of potash, was then substituted for the mercurials (which had never affected the gums), and continued for three weeks, the discharge from the seton being maintained; the symptoms by this time were much further abated, and the palpitation recurred only on extra exertion, and her general health was much improved likewise. A third time there was a partial recurrence of the same train of symptoms, which were again checked by a temporary return to the use of iodine: and she was soon after discharged, and after the interval of several months she was seen in the apparent enjoyment of health.

DISEASES OF THE HEART NOT OF A RHEUMATIC ORIGIN.

The cases of other organic affections of the heart, not of a rheumatic origin, of which the notes have been preserved, being but few, and not presenting much correspondence in their symptoms, no analytical review of them is attempted; but reports of some of these as individually deserving some notice, are subjoined, with such remarks as their histories or necroscopical appearances suggested. Cases 1 and 2, as contributions to morbid anatomy are not, it is conceived wanting in interest; the first, as presenting dilatation of the right cavities, added to, and perhaps resulting from, congenital malformation of the semilunar valves of the pulmonary artery, the left side of the heart remaining healthy—the second, as at least a rare instance of disease, viz., ulceration and division of an otherwise healthy semilunar valve from attrition, with the two remaining valves in a state of extreme ossification, and likewise as presenting the co-existence of two distinct forms of disease in the lungs, associated with pulmonary hæmorrhagy.

The author has permission to mention a case, which occurred during the course of last Summer, in the practice of one of his colleagues; presenting a form of cardiac disease, which he believes to be unique in the records of pathology—at least, he has the authority, if he did not deceive himself, of Sir Astley Cooper, who saw the preparation, for its being such.

CASE.—Cavity lined with Adventitious Membrane in the Septum of the Ventricles, and communicating by two Apertures, one recent, one of an older date, with the two Ventricles respectively

An old gentleman, the subject of calculus, and in whose bladder many large stones were discovered, died suddenly; and on examining the heart, it was found that, while its texture generally was soft and flabby, there was an appearance of ecchymosis in front, opposite to, and towards the base of the septum of the ventricles: on further examination it appeared that there was in the interior of the septum a small flattened cavity, lined with a granular membrane, and having an aperture about the size of a pea, its edges being even and covered with the same granular sort of membrane, leading into one ventricle; and another small ragged, ecchymosed, and seemingly recent opening into the other ventricle. The heart was otherwise normal.

Short notices of three other cases, although incomplete in their histories, as wanting necroscopical confirmation are added, in consequence, chiefly of the uniformity of the physical signs, which each case respectively offered while under continued observation. While in works written expressly to elucidate the diagnosis of different diseases of the heart, certain assemblages of phenomena are assigned, with more or less precision, for each known form of disease respectively; the occurrence of other associations of physical signs differing from those which have been thus appropriated may serviceably be recorded as denoting either that there are other forms or complications of organic disease of the heart, of which the collective signs have hitherto not been assigned, or that the representations already given, are in some particulars incomplete and admit of correction. Cases 3 and 4, were of this description, which are offered as presenting rather unusual combinations of phenomena, which yet were sufficiently uniform and constant to warrant the belief that they represented some definite and stationary form of organic disease of the heart.

APPENDIX OF CASES.

CASE I.—*Dilatation of right Cavities of the Heart, Patescency of right Auriculo-ventricular opening—Semilunar Valves of Pulmonary Artery, two only*—Tuberculated Lungs—Mucous Membrane of larger Intestines "Mammelonée"—Opacity of Arachnoid.*

R. C. æt. 24, labourer, was admitted in-patient October 6, 1835, of a frame generally robust, but with a mal-formed chest, the sternum projecting, and being flattened laterally. For two years he had been affected with dyspnœa, and sixteen months previously had been discharged from the hospital on recovering from an attack of purulent ophthalmia, but having at that time a cough and being subject to head-aches. On his second admission his complexion was dusky, the eyelids were puffy, and there was a tendency to œdema of the ankles after slight exertion. He had cough and dyspnœa, and expectorated globular, opaque, grey sputa. The pulse averaged 100.

The sound of the heart was very loud in the proper cardiac region, but was loudest under left clavicle—the impulse against the chest was most direct, and strongest between the 4th and 5th ribs, but here it was not excessive. The first sound of the heart was briefer than natural, the second remarkably loud and clangorous, but did not extend far to the right side of the sternum—these conditions of the heart's action continued unchanged to within a few days of his death. The auscultatory signs of the pulmonary disease are not detailed as being irrelevant to the principal object of the report, but it may be stated that there was an entire absence of respiratory murmur in the left side of the chest, which was also universally dull on percussion.

From the time of his admission, and even previously, there was a disposition to drowsiness. At first the pulmonary symptoms attracted the principal attention, for which a variety of remedies were employed without producing any manifest change. On the 4th of November he was attacked with diarrhœa, which, with occasional interruptions, continued the most prominent symptom to the day of his death, which did not occur till the 1st of January 1837. With the diarrhœa, there was combined considerable tenderness in the right hypochondrium—the usual remedies were employed to combat these new symptoms, but which were productive only of occasional and temporary relief—the legs latterly had become anasarcous, and shortly before his death the heart beat "joggedly," and the dyspnœa increased; the intellect was unimpaired to the last.

Post-mortem Examination Forty-eight Hours after Death.

Head.—The arachnoid presented on the surface of the hemispheres opaque patches of a glistening white, especially in the vicinity of the longitudinal sinus—glandulæ Pacchioni excessively developed—lateral ventricles somewhat distended.

Chest.—The lungs were universally adherent to the parietes of the chest; the pericardium occupied a much larger space in the chest than is natural, and contained about a pint of yellow serous fluid. The external surface of right auricle was rough, with firm coagulable lymph in small quantity. Both cavities on the right side of the heart, but especially the ventricle, were much enlarged, the muscular parietes retaining their natural thickness: the right auriculo-ventricular opening readily admitted four fingers—the tricuspid valves presented no material alteration of structure. The semilunar valves of the pulmonary artery were but two in number and very large; the diameter of the pulmonary artery was considerably greater than that of the aorta. The left side of the heart and the aorta were perfectly healthy.

* The heart is preserved in the Museum.

The left lung was in a remarkable degree smaller than the right, and excessively indurated throughout, in some places almost of cartilaginous consistence. It contained tubercles of various sizes, but all immature and of a yellowish grey colour; in their intervals the lung was firmly indurated, and of a reddish-grey appearance. The upper lobe of right lung was in the same condition the middle and lower lobes were comparatively healthy, containing only a few scattered tubercles. The bronchial membrane was purple and congested.

Abdomen. The structure of the liver was degenerated, its vascular network being much atrophied, and its general appearance pale. Throughout the whole tract of the colon the mucous membrane presented a singularly puffy and corrugated appearance ("mammellonné"), and was firmer than usual: one or two fringed ulcers were found near the rectum—the sigmoid flexure was dragged in to the pelvis.

Remarks.—As in the above case, both the congenital malformation and the subsequent alteration of structure were confined to the right side of the heart; the record of the physical phenomena attending the action of the heart, which were noted during life, is the more interesting from the rarity of the occurrence itself of the opportunities of similar observation.

The puffiness and dusky hue of the countenance denoted from the first an obstruction to the venous circulation in the chest. The malformation of the chest, and consequently altered relations of the organs contained within it, may account perhaps for the impact of the heart against the chest having been observed to be between the fourth and fifth ribs. The only remaining signs, then, that seem directly referable to the condition of the right side of the heart, were, the shortness of the first sound, and the ringing quality and loudness of the second sound. The enlargement being exclusively confined to the right side, it may be supposed that the predominance of this side caused *its* sounds to predominate, and to produce the peculiarity observed in these physical signs. The unusual shortness of the first sound may perhaps be accounted for by the dilatation of the right cavities and the valvular patescence, which would render the contraction of the ventricle incomplete, and thus the duration of the passage of the blood into the artery being abridged, the sound accompanying it would be brief likewise. The sounds due to the left side may be supposed to have been obscured—further, as the characters of the second sound were the same in quality which this sound presents naturally, and only exaggerated in degree, this is consistent with the mechanical condition of the semilunar valves of the pulmonary artery, which, natural in texture, were unusually large to make up for their deficiency in number. (Of course this explanation can only apply on the assumption that the action of these semilunar valves during the *diastole* are mainly concerned in the production of the second sound of the heart.)

From the patient's history, in which there was no account of any habitual embarrassment in the circulation in earlier life, and as he was of a robust frame, it seems that the malformation of the valves did not initiate any grave disorder, but was compatible with the due performance of the vital functions, till a new and constitutional disease was set up; the tuberculus diathesis, which by impeding the pulmonary circulation caused an extraordinary demand upon the right side of the heart;—in such a conjuncture the originally imperfect construction of the valves, inadequate to the now obstructed circulation, would obviously cause dilatation of the cavities, and thus conspire with the tubercular disease to hasten the fatal result, which occurred while the tubercles were still crude.

The nature and extent of the lesion observed in the intestinal mucous membrane was connected undoubtedly with the long-continued diarrhœa—and was perhaps a condition analogous to the cellular infiltration of other parts, and a result equally of the embarrassed circulation.

CASE II. *Extreme Ossification of two Aortic Valves; Ulceration and Division of the remaining Valve. Pulmonary Apoplexy and Splenization of the Lungs.*

J. B., æt. 36, very robust, and addicted to intemperance, was admitted in-patient Jan. 25th, 1838. Nine or ten years previously he had expectorated blood for the first time immediately after a fall, and continued occasionally to spit small quantities in the morning for several years; but all hæmoptysis had ceased for the last two years. Three or four months previous to his admission he had suffered from cough, attended with frothy expectoration; and, when admitted, the most prominent symptoms being those of bronchitis, he was for the first two days treated for that affection. At this period he was seized with a severe fit of dyspnœa and acute pain in the left side of the chest, which was speedily followed by an expectoration of frothy blood in considerable quantity, which continued till within a day or two of his death.

At this time the sounds of the heart were very obscure, the impulse not excessive, the pulse 120, small and intermittent; a vein being opened in the arm, the blood flowed with extreme difficulty from a large orifice. On the 30th, for the first time, a slight bellows-murmur was thought to be perceptible in the cardiac region. The difficulty of breathing amounting to orthopnœa, with great restlessness and agitation, became more and more distressing—the lower extremities rapidly and largely infiltrated, bullæ forming under the cuticle. On the 1st of February slight cerebral disturbance supervened, and he had the aspect and manner of a person half-intoxicated; the features were altered and shrunken, and his strength rapidly failing, he died on the following day, (February 2d.)

The details of the auscultation of the lungs are omitted for brevity's sake; they agreed generally with the post-mortem appearances; percussion could not be adequately performed in consequence of their being great tenderness of the chest. The detail of the treatment, which was totally unavailing, is likewise omitted; it consisted mainly in blood-letting and the use of tartarized antimony, and subsequently of acetate of lead.

Post-mortem examination, 22 hours after death.

Exterior.—Lower extremities anasarctous; posterior aspect of body mottled with purple maculæ.

Abdomen.—The liver, without being much enlarged, was much altered in its form: the upper surface of the right lobe being elevated into a somewhat conical shape, and thrusting the diaphragm high into the chest. This had produced dulness on percussion over a considerable space in the right side of the chest. Its section presented the "nutmeg" appearance, and its vessels were much engorged. The remaining abdominal viscera were healthy.

Thorax.—About a pint of bloody serum was contained in the two pleuræ. The heart, preserved in the muscum, was much enlarged, being more than double its natural size—its point rounded; there were also some small white patches on its pericardial surface, one of which was flocculent but tough. All the cavities, but especially the ventricles, were enlarged to about twice their natural dimensions, their parietes retaining their ordinary thickness and being tolerably firm. No valvular disease existed on the right side. The mitral valves were thickened, but not ossified, retaining their pliancy. Two of the semilunar valves presented an extraordinary amount of ossification, being blended into one scabrous mass, which seemed to the finger directed from the ventricle to the aortic opening like a rough fragment of mortar; the opening appeared almost occluded, the point of the finger being scarcely admissible. On laying open the arch of the aorta, it was found that the third semilunar valve was not ossified, but had been divided by ulceration down its center into two pendulous flaps, the division being opposite the roughest and most projecting portion of the ossified mass. The aortic arch presented atheromatous patches; the whole of the internal surface of all the cavities of the heart and of the arch presented an uniform redness.

The Lungs.—The mucous membrane of both lungs was throughout congested, but of a darker hue in the left; the bronchi and their ramifications contained a quantity of frothy blood. *Right Lung.*—Upper and middle lobes crepitant, and the posterior aspect of all the lobes moderately congested, but a portion of about two inches square of the thin anterior edge presented externally a dark purple appearance, and its section was black and resembled a sliced coagulum of blood. *Left Lung.*—The upper lobe crepitant and comparatively healthy; the inferior lobe in its lateral and posterior aspect was entirely solid and friable; the section of the greater portion of this lobe resembled very accurately the spleen in colour and somewhat in texture, while an abundant quantity of purple, prune-colored fluid was very readily expressed from it: the remaining smaller portion, accurately and abruptly defined from the former, presented the same apoplectic appearance as that described in the right lung, and pure blood oozed from its surface on gentle pressure.

Remarks. In reviewing the history of the above case in reference to the necroscopical appearances, it appears possible to trace what was latterly the probable sequence of organic changes which eventuated in the entire destruction of the mechanism of the circulation. The amount of ossification of the aortic valves was so great that the disorganizing process must have been for a long time in activity. The postponement of the inevitable result of a fatal impediment to the circulation was probably owing to the circumstance of one of the three semilunar valves having been exempt from ossific degeneration; so that although the channel must have long been greatly contracted for the passage of the blood, yet there still subsisted the conditions for securing the onward movement of what little was transmitted, and thus its fatal remora in the lungs was continually prevented; but the ulceration of the remaining unossified valve consequent on the chafing of the opposed bony spiculæ, terminating in its division into two pendulous flaps, must, it is evident, have given the "coup de grâce" to the heart as an organ capable at once of receiving a quantity of blood "a tergo" and transmitting the same onwards, in short all valvular property was then lost, and the disorganization of the heart thus consummated, quickly induced the impediment to the circulation through the lungs, causing extravasation into their cellular and interstitial structure and terminating in death.

It was remarkable that, with so large an amount of valvular disease, the physical signs declaratory of its presence should have been so faint and obscure, and especially that it should remain doubtful to the last whether there was any bellows-murmur or not; but this apparent anomaly admits of ready solution, as the extreme smallness of the aperture must have counteracted the effect of its roughness in producing any rasping sound, by admitting the passage of but a very small quantity of blood at a time.

With respect to the morbid appearances in the lungs, a question arises whether the two kinds of solidification described are to be regarded as two distinct kinds of lesion, or whether they be different stages of the same disease, *i. e.* whether the purple solidification, splenization, from which the prune-colored exudation took place, was an advanced stage of the primary apoplectic state, and that in it the extravasated blood had undergone some ulterior change; or whether it was pneumonia in its passage into the third stage of Laennec. The author is not aware of any case in which these two appearances are described as having co-existed; although mention is made by the translator of Laennec, in a note to the Chapter on pulmonary apoplexy, of the splenization of the lung, by whom it is regarded as the result of the chronic form of pulmonary apoplexy.

CASE III.—*Hypertrophy of the Heart—supposed Disease of the Aortic Valves—Extreme Venous Discolouration of the Surface—rasping sound—the interval between the Impulse at the Chest, and the Rasping observed to have increased with the Duration and probable Advance of the Disease.*

In W. C., a robust waterman, æt. 28, the following symptoms were observed with but little variation during upwards of three months.

General Symptoms.—Distention and dragging at the epigastrium, which caused his principal suffering; dyspnoea on exertion; occasional œdema; nocturnal attacks resembling incubus, followed by pain in occiput.

The Circulation.—Extreme venous discolouration of the surface, especially the face, hands, and feet, without apparent distention of the larger veins or pulsation of the jugulars. The right radial pulse much smaller and more feeble than the left: a corresponding difference thought to exist between the right and left carotids, temporals, &c. respectively. The pulse generally feeble but not irregular.

Impulse of the heart uniformly inordinate raising the head of the observer applied to the chest; frequent palpitation.

Dulness on percussion over an increased space, about two inches square, in precordial region, but respiration audible in front of the heart on a deep inspiration.

A rasping heard in cardiac region, over the sternum, carotids, and in the back, varying in extent at different times, yet always loudest just to the left of the sternum in the third intercostal space, and in the latter situation apparently not distant from the surface; synchronous, or very nearly so, with the impulse at the chest, and followed by a second sound, which was very clear, sharp, and occasionally clangorous.

This patient seen again at the interval of 10 or 12 months, was much in the same state generally; the complexion retaining its venous hue, had become more sallow, and cough was added to the other symptoms.

The physical signs referrible to the circulation were essentially the same, but the impulse of the heart had apparently increased, and the rasping sound now very perceptibly followed the impulse at the chest, between which and the radial pulse there was also a very appreciable interval.

Remark.—Although the rasping was, latterly at least, not synchronous with the impulse at the chest, it was nevertheless the accompaniment or modification of the first sound of the heart as it was followed by the second, which retained its naturally brief character, but was more resonant and ringing. The diagnosis conjectured was—1st, disease and contraction of the aortic valves principally. This opinion was founded on the rasping appertaining to the first sound, and where loudest, its being comparatively near the ear, and on the pulse being weak and small, and at the same time not irregular (vide Hope on Diseases of the Heart). It differed, however, from some of the particulars assigned by Dr. H. as characteristic of this form of disease, viz. the sound was not loudest opposite the middle, but at the left margin of the sternum, it was also not synchronous with the impulse at the chest. 2ndly, Dilatation with hypertrophy of the heart, as denoted by the increased space, over which there was dulness on percussion, and the increased impulse. And 3dly, the want of correspondence in the force of the arterial pulse on the right and left side of the head and upper extremities might depend upon an extension of the disease to the arch of the aorta in which the arteria, innominata might be implicated at its origin.

The circumstance of the interval between the impulse at the chest and the rasping of the first sound having increased sensibly, during the 12 months intervening between the times of observation, constituted the chief interest of the case. It may perhaps be thus accounted for—the aortic obstruction had increased during this period, while the propulsive force of the hypertrophied ven-

tricle had not been exalted in the same proportion, and thus the passage of the blood through the opening was longer in being accomplished; hence the interval between the *commencement* of the ventricular systole, as denoted by the impulse at the chest and its *completion* coincident with the cessation of the rasping had become prolonged.

The embarrassment of the respiration, it may be observed at no time corresponded in *degree* with the extent and intensity of the venous discoloration, if that depended upon any impediment to the pulmonary circulation; it was more analogous to the appearance presented where there is a communication between the arterial and venous sides of the heart.

CASE IV. Very loud and superficial Bellows-murmur behind the Sternum not synchronous with the Arterial Pulse. Obscurity of Sounds and Feebleness of Impulse in the proper Præcordial Region.

L. B. a travelling saleswoman, æt. 30, who had been for some time a surgical patient for ulceration of the scalp, resulting from an injury was transferred to the care of the physician in February last. The symptoms most urgent at that time had reference to an enlargement of the spleen, accompanied with intestinal disorder, and shortly afterwards she had a severe attack of acute pleurisy in the left side. It was on convalescence from this last affection that the attention was principally directed to symptoms indicating disease of the heart or large vessels.

She had been subject to palpitation for two or three months, but of no great severity; neither, independently of the pleuritic attack, did it appear that at any time there had been any very great embarrassment to the pulmonary circulation. There was no venous hue of the complexion, which was for the most part pale, especially the lips.

The pulse was large, tense, and regular.

Percussion of the chest in præcordial region dull over a considerably increased space. Systolic impulse very feeble, being with difficulty perceptible. Impulse above the clavicles, but unaccompanied with any thrill. Both sounds of the heart in præcordial region audible but not distinct. A loud and prolonged bellows-murmur heard in præcordial region, but loudest opposite the middle of the sternum, where it seems very superficial; heard also above the clavicles, especially above the right; the murmur was not synchronous with the pulse, whether felt above the clavicle or at the wrist, but seemed to take the place of the second sound. So feeble was the impulse at the chest, that its synchronism or anachronism with the morbid sound could not be satisfactorily determined. The above symptoms remained stationary while she remained under observation, a period of several weeks.

Remark.—The association of physical signs just enumerated, which were constant, do not agree with the assemblage assigned by Dr. Hope to any of the principal forms of valvular disease, either of the aortic or mitral valves.

The situation of the bellows-murmur where loudest, its nearness, and the regularity of the pulse, agree best, according to Dr. H.'s diagnosis, with disease of aortic valves or ascending aorta; but the coincidence of the murmur with the second sound, or rather its want of synchronism with the arterial pulse, do not accord with the presence of such a form of disease.

Again, the apparent coincidence of the murmur with the second sound of the heart agrees with the diagnosis offered by Dr. H. of disease of the mitral valves. but its nearness to the ear, the situation where it was heard to be loudest, and the regularity of the pulse, and, it may be added, the comparatively slight embarrassment to the pulmonary circulation, militate strongly against such a diagnosis in the present case.

DR. JOHNSON
AND
THE BRITISH AND FOREIGN MEDICAL REVIEW.

TO DRs. FORBES AND CONNOLLY,

Editors of the British and Foreign Medical Review.

GENTLEMEN AND CHERS CONFRERES!

I CANNOT sufficiently express the obligations I am under for your highly liberal, impartial, and honourable conduct in the review of my late work, in the last number of your journal—a journal which is acknowledged, even in the wigwams of America, to be the “*first in the world.*” I confess that I am not without some compunctious visitings of conscience, on this occasion, when I reflect on the very *different* manner in which I treated *your* works, when they came under my critical notice a few years ago. Ingratitude is a crime which few men like to own—but I am compelled to the admission of it, by the striking contrast between the tone and manner adopted in the two journals towards their respective Editors. Many an illnated Reviewer would have seized such an opportunity as you have had, to retaliate upon me the unfriendly, illiberal, and unjust criticisms which I once bestowed on the “Treatise on INSANITY,” and the “Translation of LAENNEC.” But you, gentlemen are far superior to such considerations. You scorn to take advantage of a Review to imitate my bad example of lavishing general and indiscriminate abuse on books, without quoting a single passage to substantiate the charges! No, you have returned good for evil—eulogies for censures—and thus punished me nobly, but effectually, for my manifold acts of injustice towards you! The ways in which you have dealt so kindly with me are numerous and judicious. You are aware that the public look much more to the *matter* than to the *manner* of a book; and, conscious that the *former*, in mine, would not bear exposure to public view, you have, with equal charity and justice, kept it entirely out of sight—dwelling on the beauties of the style, with a delight which, I fear, your readers will perceive to be a mark of partiality to the author, not calculated to enhance the decision of the critic.

The ingenious mode which you have adopted to display the merits of my style, is equally original and *ingenuous*. Instead of pursuing the beaten path of selecting extracts to justify your criticisms, you have picked out one or two words from various paragraphs, and the paragraphs themselves from various pages, or even chapters of my work, and then, by twirling them round in your literary Kaleidoscope, you have exhibited them to the world as authentic specimens of the manner in which my book is composed*—or

* The following is one of the specimens of my style exhibited by my impartial Reviewers. “Health, Time, Poverty, Affluence, Fame, Power, Sceptic, Prince, Beauty, Literature, Science, Religion, Cholera, Hygeine, Community.”

therefore to be crushed, and a "learned Theban" of that day undertook to exterminate, at once, both editor and journal. For this purpose one of my works was selected for immolation, and, by means of misquotation, misrepresentation, *falsification*, and various other arts well known in the *trade*, the Reviewer contrived, with great ingenuity, to hold me up to the derision and contempt of the public, as a man totally ignorant of his profession, and, of course, incapacitated for editing a medical journal. With a consistency remarkable in great critics, the same book was reviewed by the same writer and in the same journal, with strong encomiums—only one short year previously! But *then* the author was in a provincial town, and had not started a rival journal!*

To make assurance doubly sure, and not content with this savage assault on myself, he determined on sweeping the MEDICO-CHIRURGICAL REVIEW from the face of the earth. For this purpose he set to in good earnest, and reviewed his "TEN THOUSAND SEVEN HUNDRED AND NINETY-FIVE" pages of original authors, pounding and compressing their naked bones into his narrow sarcophagus—wisely calculating that such a quintessence—such a consommé of medical lore would supersede all other articles of the kind in the literary market. But Athenian ingratitude is not confined to the shores of Attica. The book-worms praised the learned labours of the Reviewer—the public permitted them to repose quietly in St. Paul's Church-yard. "Virtus laudatur et alget." The learned Theban threw up his brief in disgust, and the journal itself soon died of asphyxia, and vanished from the scene!

Whether I shall survive this second onslaught, can only be known to the FATES, whose inexorable shears may now, perhaps, be closing on my slender thread of existence, under the iron grasp of my marble-hearted executioners. But twenty years of editorial office might satisfy the ambition of any man; and, if gentlemen, you hold office as long, I venture to prophecy that, before half the twenty years have expired, you will reform your literary Kaleidoscope, filled with glittering baubles—your pedler's pack, crammed with samples of every thing, and substance of nothing—with fag-ends clipped from the tough yarns of Germany—the tinsel tissues of France—and the tawdry remnants of home manufactures—all tricked out, with ad captandum skill, for hawking through the provincial fairs, and astonishing the weak minds of the natives

I am, Gentlemen,

With (of course) great respect,

Your most devoted humble servant,

JAMES JOHNSON.

20th June, 1838.

* There is one remarkable coincidence between my Reviewers of 1818—and 1838. They both, and no doubt from the most disinterested motives, advise me to "write no more." I have not the smallest doubt of their entire *sincerity* in giving this advice.

THE Medico-Chirurgical Review,

No. LVIII.

[NO. 18 OF A DECENNIAL SERIES.]

JULY 1, 1838, to OCTOBER 1, 1838.

TRANSACTIONS OF SOCIETIES.

- I. MEDICO-CHIRURGICAL TRANSACTIONS. Published by the Royal Medical and Chirurgical Society of London. Volume the Twenty-first. London, 1838.
- II. THE TRANSACTIONS OF THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION. Instituted 1832. Part II. Volume. VI. London, 1838.

THERE can be little doubt of the utility of publishing the Transactions of learned societies. The number of those who are willing to purchase papers or specific works upon abstract science, or on the more abstract portions of practical science, is limited. The want of sale, and the risk that such publications would incur, must necessarily prevent many from engaging in them; while this very absence of the means of publication would operate in discouraging scientific pursuits themselves. But the Transactions of Societies offering to good papers a certain circulation without risk and without expense, a sound taste is nurtured in the public, and a healthy spirit of investigation is fostered.

Another advantage, which indeed is included in the former, is the opportunity offered to men of pursuing in detail and by instalments the examination of particular subjects. The periodical character and the miscellaneous construction of Transactions facilitate this mode of conducting inquiries: a mode which it would be easy to prove, from many striking examples, to be well-adapted to the present constitution of society, and to have given birth to some excellent results.

Medical Transactions are open to insulated facts, and single cases—facts too valuable to be lost without regret, too inconsiderable to be separately published. It is true that the medical journals offer the same accommodation to science, an accommodation of which authors freely avail themselves. In this respect it is difficult to draw the line between the two forms of periodical publication, between Transactions and Journals. Some reasons induce a contributor to prefer the one vehicle, some lead him to select the other. If, in Transactions, his case is less buried amidst the mass accumulated by rapid periodical returns of publication, the readers, on the other

hand, are less numerous than when it appears in some popular magazine. These conflicting motives have prevented either form of publication from monopolizing the valuable facts, and cases are often found in Transactions of a very inferior description, while papers are occasionally seen in journals of a high order of excellence.

Transactions, however, should contain essays rather than individual cases; we mean to say that they should present generalizations and groups of cases, rather than single and naked facts. A journal is better adapted for the latter, and unless the writer can arrive at the dignity of generalization or abstraction, we conceive that he has little right to expect a place in a volume of Transactions. The latter, as we have already observed, is intended for the publication of such papers as could not otherwise find a market, and would, in consequence, be much discouraged. But cases, if worth anything, can always see the light in magazines, and Transactions which contain them in any quantity will disappoint the public and sink in its esteem.

Of the two volumes of Transactions on our table, that of the Medical and Chirurgical Society may, from age and honours, if from no other causes, claim precedency. We may state the nature of its contents.

It consists of twenty-four papers, occupying 435 pages, independently of six lithographic plates. The titles of the papers are as follows:—1. On Necrosis; being an experimental enquiry into the agency ascribed to the absorbents, in the removal of the sequestrum. By George Gulliver, Esq. Assistant Surgeon, Royal Horse Guards. Communicated by Sir James M'Grigor, Bart.—2. Note on the comparative prevalence of calculous diseases, &c. By A. Copland Hutchison, F.R.S L.&E. Communicated by Sir Astly Cooper, Bart.—3. Observations on the constitution of the urine. By John Bostock, M.D., F.R.S.—4. Description of a new instrument for closing vesico-vaginal and recto-vaginal fistulæ, and fissures in the soft palate. By William Beaumont, Surgeon to the Islington Dispensary.—5. Facts and inferences relative to the condition of the vital organs and viscera in general, as to their nutrition, in certain chronic diseases. By John Clendinning, M.D., Physician to the St. Mary-le-bone Infirmary, and one of the Secretaries of the Society.—6. Remarks on malignant diseases of the skin of the face. By Caesar Hawkins, Surgeon to the St. George's Hospital.—7. On a peculiar symptom occurring in some cases of enlarged liver. By John G. Malcolmson, Esq. Surgeon in the Madras Establishment. Communicated by the President.—8. Nervous affections peculiar to young women, causing contraction of the muscles of the extremities. By John Wilson, M.D., Physician to the Middlesex Hospital.—9. Report of a case of secondary measles; with observations. By Joseph Moore, M.D., Physician to the Royal Freemasons' Female Charity, &c.—10. Removal of the clavicle with a tumor situated in that bone. By Benjamin Travers, F.R.S., Surgeon Extraordinary to the Queen, and Senior Surgeon to St. Thomas's Hospital.—11. Case of universal purulent deposition into the joints, with separation of the epiphyses, occurring as a sequel to small-pox. By Henry Ancell, Esq. Surgeon to the Western General Dispensary.—12. Report of twenty cases of malignant cholera that occurred in the Seamen's Hospital Ship Dreadnought, in 1837. By George Budd, M.B. F.R.S., Physician, and George Busk, Esq. Surgeon to the Dreadnought. 13. On aneurysms of the heart, with cases. By John Thurnam, Esq.—14. History

of a female who has four mammaræ and nipples. By Robert Lee, M. D. F. R. S. Physician to the British Lying-in Hospital, &c.—15. Results of poisoning by sulphuric acid. By John Wilson, M.D., Physician to the Middlesex Hospital.—16. On the use of arsenic in some affections of the uterus. By Henry Hunt, Esq., of Dartmouth. Communicated by John G. Perry, Esq.—17. Case of excision on the entire lower jaw, with observations. By John George Perry, Surgeon to the Foundling Hospital, and one of the Secretaries of the Society. 18. On increased thickness of the parietes of one of the ventricles of the heart with diminution of its cavity. By George Budd, M.B. F.R.S., Physician to the Seamen's Hospital Ship Dreadnought. Communicated by John G. Perry, Esq.—19. History of a case of popliteal aneurysm, with observations. By Samuel Hadwen, House Surgeon to the Lincoln Hospital. Communicated by Richard Quain, Esq.—20. Case of hydatid cyst of the liver successfully tapped. By W. Travers Cox, M.D., of Yarmouth. 21. On black expectoration and the desposition of black matter in the lungs, &c. Part II. By William Thomson, M.D., Fellow of the Royal Colleges of Physicians and Surgeons of Edinburgh. Communicated by Sir James Clark, Bart. 22. Account of a case of enormous ventral aneurysm, with dissection. By Sir David J. H. Dickson, M.D. F.R.S.E. Physician to the Royal Naval Hospital, Plymouth. 23. On the proportions of animal and earthy matter in the different bones of the human body. By G. O. Rees, M.D. Communicated by the President.—24. On a successful plan of arresting the destruction of the transparent cornea from acute purulent inflammation of the conjunctiva. By Frederick Tyrell, Surgeon to St. Thomas's Hospital, and to the Royal London Ophthalmic Hospital.

It would be impossible for us to present in one article a *bonâ fide* analysis of 435 pages of one book, and 567 of another.* We have not yet arrived at the art of condensing a thousand pages into ten or twenty, and offering a perfect account of them all. We shall content ourselves with selecting the more interesting papers in each volume, and with offering as complete a notice of them as seems necessary.

Starting with the papers of a practical description, the first to which we shall direct attention is that intitled:—

I. REMARKS ON MALIGNANT DISEASES OF THE SKIN OF THE FACE. By CÆSAR HAWKINS, Surgeon to St. George's Hospital.

All who have the pleasure of Mr. Hawkins' acquaintance, will attach importance to what he writes, from the known patience of his enquiries and accuracy of his observations. The following paper is at once the result and a proof of both.

The chief object of Mr. Hawkins' remarks is to describe a peculiar form of malignant disease of the face, which does not appear to have received any distinct notice from surgical writers, although its character is so well marked, as to require a separate consideration.

Mr. Hawkins very properly commences by defining what he means by

* The number of pages contained in the volume of Provincial Transactions.

malignancy. He confines it to such diseases, as recently possess a new structure, capable of exciting a poisonous influence in one or more of these several modes:—1st, upon the *neighbouring textures*, which are converted into a substance, either exactly similar, or at least analogous, to that of the new formation; 2dly, upon the *absorbent system*, so that the nearest glands become enlarged into a tumor like that originally deposited; or 3dly, upon the *whole constitution*, so that the poisonous secretions of the newly formed part gain access to the circulating fluids, and tubercles of various forms, but of the same or analogous character, become developed in some distant organs or textures, which have no direct communication, except through the blood, with the parts in which the new structure was first formed.

“By this restriction of the term,” proceeds our author, “we exclude from among the malignant diseases of the face. 1st, the irritable and intractable ulcers of this part, so well described by Mr. Earl, in the 12th Volume of the Transactions of the Society; 2dly, the various forms of Scrofulous Phagedenic Ulcer, or Scrofulous Lupus, which attack the nose, eyelids and cheeks; 3dly, the several varieties of Tubercular Sebaceous disease, Tubercular Lupus, Cancer perforans, Moli me tangere, or whatever other name is adopted to designate these destructive ulcerations, which occur in the same parts; and 4thly, the Hypertrophy of the Skin of the nose, described by Mr. Hey, Civadier, and other writers, and often called Cancerous Tumours, Loupes, Lipoma, and so on, though they have nothing in common with those affections. None of these are malignant in this confined sense, however large may be the tumours of the last named disease, or however extensive and destructive the ulceration of the three preceding, because the interior of the tumours, and the hard edges, and fungous granulations of the ulcers, contain no new structure, but are a development of the natural textures, with the deposits of inflammation only, incapable of affecting other parts of the body, even when fatal to the lives of the wretched objects, who are victims to these frightful disorders.” 71.

1. The first class of malignant diseases at which Mr. Hawkins glances is the fungoid. Its varieties, the hæmatoid, medullary, or melanoid, seldom occur primarily in the skin of the face. The forms most frequently developed are the melanotic tubercles, or a soft lardaceous kind of medullary tumor; these are seldom single, like the several forms of cancer, but are in great numbers over the face and scalp, and are too rapidly formed, towards the end of the patient's life, when he has nearly sunk under the same disease in some other part, to occasion trouble in determining their nature.

2. The class of scirrhus or cancerous tumors presents peculiarities when they occur in the face. Cancers of the skin of the face, says Mr. Hawkins, is seen under three different forms, of which he terms the most frequent—

A. *The common Cancer of the Face.* Surgeons are familiar with this in the lower lip. Mr. Hawkins thus delineates it.

It commences for the most part in the form of a little hard tubercle in the substance of the cutis and subjacent cellular texture, with the little ulcer or fissure, which takes place in it, covered from time to time with a thin scab.

To this stage succeeds a deep excavated ulcer, with a foul and painful surface,—or a mass of exuberant granulations, flabby and bleeding slightly. The original tubercle now no longer exists, or is mixed with hardened cellular substance in the neighbouring textures, and some minute scirrhus tubercles are sometimes visible in the muscles around the ulcer. Next perhaps

succeeds a further stage, the ulceration having spread extensively on the inside of both lips, and having affected the gums and lower jaw, part of this bone being softened and ulcerated, and part exfoliating slightly.

In this stage, the patient is generally carried off, exhausted by the irritation of the ulcers, or half-starved or suffocated from their pressure. Occasionally the constitution is extensively contaminated. A patient, for example, died in St. Bartholomew's Hospital in 1833, with cancer of the lip, in whom a few scirrhus tubercles were discovered in the liver, and an immense number in every part of the heart.

Common cancer in other parts of the face, presents exactly the same characters.

The operation for the extirpation of this disease, though frequently successful, is frequently succeeded by a return of the disease. Of course, that extirpation should be as complete as possible.

b. "The second form of cancer of the face is one which I have been accustomed for some years to describe under the name of the 'cancerous ulcer,' or 'phagedenic ulcer of the face of old persons.'—Its usual origin, I believe to be a flat brownish tubercle, generally situated in the angle between the cheek and the ala nasi, or in the inner canthus of the eye, which is frequently stationary for a long time before some accidental violence induces ulceration;—this tubercle is softer, flatter and darker than that of common cancer, as if it implicated the outer texture only of the cutis, including the coloured rete mucosum.

The ulcer has a dark shining appearance, with slight elevation of its edges, which are jagged and irregular, and the skin around is not thickened nor inflamed, as in ordinary cancer, from the ulcer of which it is also distinguished by the trifling pain which accompanies it.—by the absence of hæmorrhage, sloughing and fungus, and by its very slow progress,—many years sometimes elapsing before very extensive ravages have been committed by it, during which time the ulcer sometimes remains nearly stationary for a time, or becomes covered by a thin skin, in which the vessels of the subjacent texture are visible; and in these intervals of rest the new structure at the edges diminishes in thickness.

In a case of this kind a little wart (as it was called by the patient) had been ulcerated four years, at the margin of the nose, and yet has not become half an inch broad, and was only just beginning to ulcerate into the nostril. It was my intention to have cut out the diseased parts, and to have brought round a portion of the skin of the face to supply their place, when a severe and nearly fatal attack of erysipelas effected a cicatrization of the ulcer for some time, and successive attacks of the same disease, with domestic circumstances, prevented the operation being performed before I lost sight of her, a few months ago.*

While the ulcer spreads gradually, opening into the cheek, or the malar and maxillary bones, or leaves the eyeball suspended in its socket, with destruction of the eyelids and circumference of the orbit, and partial exfoliation and softening of the bones with which the disease is connected, its difference from ordinary cancer is evinced in the most remarkable manner, by the little disturbance which it causes in the general health, and by the entire absence of contamination, as far as I am aware, in the absorbent glands. It possesses the same degree of power of contaminating the surrounding textures as is seen in the warty or cancerous tumors of cicatrices, which I have endeavoured to describe in the 19th

* "I have seen this patient several months since this paper was read, and the ulcer had made very little more progress."

volume of the Transactions, but is perhaps only malignant in this lowest degree, and is, therefore, if it does not affect the glands at all, an instance of purely *local cancer*, which the common cancer of the face, and the cancer scroti are often called, but very erroneously, since they affect both the glands and the general system. At all events, if it ever affect the glands, such an occurrence is very rare, and I have not seen it where the ulcer has existed a great many years, and has destroyed the patient by its local effects." 76.

Mr. Hawkins prefers the designation *cancerous ulcer* to any other for this affection, because it indicates the scirrhus nature of a new structure, possessing a malignant influence upon every structure in its neighbourhood, yet, apparently, not contaminating the absorbent glands. It has been called *lupus* or *lupoid tubercle*; and Dr. Jacob has described it in the 4th volume of the Dublin Hospital Reports, under the title of "an ulcer of a peculiar character, which attacks the eyelids and other parts of the face."

The disease should be effectually removed, either by the knife, or, when the ulcer is broad and flat and superficial, by the chloride of zinc, as introduced into practice in this country by Mr. Ure.

c. The third form of malignant disease in the skin of the face is called by Mr. Hawkins, the *Cancerous Tumor of, or Fungous Cancer of the Face of Old Persons*. He is not aware of any existing description of it.

"The early stage of this disease is presented to us in the appearance of a small round or oval tumour in the skin, generally in the cheek, or over the malar bone, or on the ala nasi. It is nearly of the natural colour of the skin for a long while, or is a little whiter, from the outer part of the cutis being thinned by the growth of the tumour, so as to allow the colour of its interior to shine through it. A section of the tumour shews it to be white, solid, but not very firm, lardaceous in consistence, rather than of the firm hardness of ordinary cancer. It has a well-defined margin, separate from the rest of the skin, and where it projects below the cutis it is covered by a kind of cyst.

The tumour is more globular, soft, insulated and distinct, more completely confined to the texture of the skin, more elevated and less liable to become puckered, than ordinary cancer of the skin of the face, and less liable to have lacerating pain before the ulcerative stage has begun.

It is more elevated and circular, and of a whiter colour, more abrupt at its margin, and extends deeper into the substance of the cutis than the tubercle of the *cancerous ulcer*.

It has fewer vessels ramifying on its surface, and has none of the livid colour, previous to its ulceration, of fungus hæmatodes, nor of the darkness of structure of melanosis, and its texture is firmer and more organized than that of medullary tumours. It is distinguished too from all these diseases, by its being single, and by the length of time that it remains stationary.

If it forms upon the nose, it is easily distinguished from the tumors of hypertrophy of the ala nasi, by the absence of surrounding redness and thickening, by its defined cyst-like limits, and by its having none of the enlarged sebaceous follicles observed in that disease.

The tumour grows thus smooth, globular, and nearly unattended with pain, to the size of a nut, or a walnut, before it excites apprehension to the patient's mind. At last it is pricked or irritated, or ulcerates spontaneously, and there arises a mass of healthy granulations from the surface, which spread out considerably beyond the tumour, over the surrounding skin, to the height of an inch or more with a copious discharge of healthy pus, without fætor, and without sloughing or bleeding, and not even now very painful. The tumour at the basis

of these granulations increases in depth and in diameter, but is free for a long time from any attachment by altered cellular texture to the subjacent parts, so as still to allow of removal with every chance of success." 80.

The tumor, continues Mr. Hawkins, grows to a considerable size before it alters its character, and before the general health suffers much. But after a time ulceration extends more deeply into the tumor, and its projecting appearance is lost: the bones and deeper parts become rapidly changed into the new structure, which, in some parts, is gristly like scirrhus, but in others is softer and more pulpy, like some cases of medullary diseases of the bones. The ulcer in this stage is also somewhat intermediate in character between these two diseases.

After relating two interesting cases illustrative of this latter form of morbid growth, Mr. Hawkins goes on to observe, that when the cancerous tumor of the face has reached its third stage of advanced ulceration, it bears more resemblance than it previously did to common cancer of the lips and face; but it is attended with more tumefaction around and beneath the ulcer,—the edges are less curled and hardened,—the discharge is healthy purulent secretion, instead of offensive watery and sanious fluid of a peculiar odour;—and there is much less disposition to bleeding and sloughing.

It is easily distinguished from the Phagedenic ulcer of the largest size, by its tumefaction and fungous growth, by its granulating and vascular surface, by the depth and extent to which the subjacent parts are excavated and converted into new structure, by the greater pain which accompanies it, and by the rapidity of its progress:—its final and fatal stage being attained in about two years, instead of, perhaps, twenty or thirty.

Mr. Hawkins takes a very probable view of the nature of this affection, when he thinks that it may, perhaps, be considered to be in a manner intermediate between true scirrhus and the hæmatoid or medullary growths.

"In malignancy it is intermediate between the cancerous ulcer and the common cancer; more rapidly and extensively contaminating the surrounding parts than the former, but not having the neighbouring scirrhus tubercles, and scirrhus bands of cellular texture, met with in the latter disease, and admitting, therefore, of removal by the knife, if sufficient care be taken to excise the whole, with more chance of the cicatrix remaining sound than in ordinary cancer,—in fact, with almost a certainty of success, where it has not attained a great magnitude.

With regard to the absorbent system, the last case would seem to show that the cancerous tumour does affect it, which is never the case, as far as I know, in the cancerous ulcer of the face;—yet the enlargement of the glands is, at all events, very rare, and we need entertain very little fear of a return of the disease in the glands, after removal of the tumour. In common cancer, on the other hand, the contamination of the glands is very common, and frequently destroys the patient after the operation, even when the cicatrix has remained sound.

Finally, it would seem, from the tumour of the liver in the last case, that the whole constitution may be impregnated with the poison of this complaint, in which respect also the cancerous tumour is more malignant than the phagedenic ulcer, in which I do not know that such an occurrence has ever been observed. But in this point too it is probably surpassed by the common cancer of the face in which form of disease scirrhus tubercles of the liver or some other organ, (it has already been remarked,) have occasionally been observed; although, even in this, the most malignant form of cancerous disease of the face, the simultaneous developement of the poison in other organs or textures is rare, in comparison

with cases of cancer or fungus hæmatodes of most other parts of the body. Therefore, if the tumour of the fungous cancer is carefully removed by the knife, and not trifled with by caustics, and no gland is enlarged at the time of removal, the prospect of cancer becoming developed in some other part of the body, though not impossible, is too remote to excite any apprehension of a failure of the operation from this cause." 89.

The preceding paper is a very interesting one. We hope that Mr. Hawkins will prosecute his inquiries on the subject of the various morbid growths and morbid changes of structure. We trust that we shall be enabled to communicate the results of more extended observation to our readers.

II. ON A PECULIAR SYMPTOM OCCURRING IN SOME CASES OF ENLARGED LIVER. By JOHN G. MALCOLMSON, Esq., Surgeon in the Madras Establishment.

The object of the author of this paper may be best and most briefly stated in his own words.

"Previous," he says, "to the year 1832, one or two cases of abdominal disease had occurred to me, in which a remarkable symptom was observed in the chest, which differed from any described by Laennec and other writers on auscultation. It was a loud sound, (as heard through the stethoscope), between a crepitous rattle and a bleating, audible to the patient and even to the bystander, and accompanied by a vibration of the parietes of the thorax, communicated to the hand applied to the part. I was unable to ascertain the cause of the symptom, until the following case occurred to me, while attending the hospital of H. M.'s 46th Regiment, at Hyderabad, during the illness of my friend Dr. Gualter." 91.

We shall materially abridge the case, although it is on other accounts very far from uninteresting.

Case.—L. McDonald, aged 29, was attacked with very violent symptoms of hepatitis, during the latter part of 1832: for which he was very properly and actively treated. Symptoms of suppuration ensued, and, on the 1st of January, tumefaction was observed, occupying the right hypochondrium, and extending towards the umbilicus and into the left side. Occasionally, bloody mucus and fætid pus were passed by stool. The respiration was generally quickened, and, when examined in the middle of February, the sound on percussion below the fifth rib on the right side was quite dull.

On the 20 of February, fluctuation was evident. Some fluid in the abdomen.

March 10th.—Is suddenly seized with acute pain over a small space of the anterior part of the left side of the chest, between the sixth and seventh ribs. There is a very distinct, sharp vibration communicated to the hand applied to the spot, with an emphysematous feel between the ribs,* but attended with a loud crepitous bleating, distinctly heard without the stethoscope. Some mucous rattle in the throat, and he expectorates a little thick

* The emphysematous feel was also to be perceived, in a slight degree, over the tumor, but not in the intermediate portion of the integuments.

adhesive mucus. The respiration is hurried, he is exceedingly anxious, and is forced to sit up in bed. Pulse very quick and weak. Apex of the heart seems to be thrust up a little higher than usual.

On the 17th, respiration was inaudible in the right lung below the third rib. Respiration in the left lung puerile, and the peculiar crepitous beating between the sixth and seventh ribs rather less loud.‡

“As the tumor had made no progress I still considered it dangerous to open it, notwithstanding the edges felt hard, as if adherent; and proposed to cut down over the swelling, so as to lessen the thickness of the parts, and assist the progress of the matter to the surface, as recommended by Dr. Graves. This was accordingly done by Dr. Gualter, who cautiously cut obliquely across the swelling and the fibres of the rectus, down to the posterior fascia of that muscle, which, as well as the skin, was in a healthy state. The swelling protruded a little at each inspiration, and led me to think that there were adhesions. The tension being removed appeared to give him some ease, but he died on the 26th, rather suddenly.” 97.

Dissection. A mark was made on the place where the peculiar symptom described above was observed.

No adhesion had taken place between the abscess and the parietes of the abdomen. The liver was much enlarged, its substance rather soft, and the pale structure somewhat increased. It strongly adhered to the diaphragm, which it had pushed some way up, and had caused a partial absorption of its substance, as, on separating the lungs, which also adhered, a gush of matter into the cavity of the pleura was caused by tearing its attenuated fibres. The right cavity of the pleura, as high as the third rib, was full of reddish serum, in which flakes of coagulable lymph floated, and recent and very tender adhesions existed between the lung and pleura costalis, and insulated in large irregular cells, quantities of the red serum. The lung, though compressed, was healthy, and the adhesions were easily separated from the healthy membrane, as if they had been deposited from the fluid. The adhesions to the diaphragm were dense. There were four ounces of fluid, containing a few flakes, in the pericardium; and towards the right side it seemed to have partaken of the diseased actions. There was a slight recent adhesion of the thin margin of the left lung to the sixth and seventh ribs, at the spot where the sound was heard during life: the lung was well traversed and healthy, with the exception of an enlargement of some of the cells where it adhered. It was seen that the edge of the lung had been pushed against the side by the diaphragm, forced upwards by the enlarged liver. The heart and great vessels were healthy.

There were several large abscesses in the liver, of which one, on the convex surface of the right lobe, had nearly opened into the chest, and as well as another in the middle of the left lobe, was independent of the one that pointed. The gall-bladder was distended, and contained some bile mixed with much pus, which was found to have regurgitated along the cystic duct, and to have come from the abscess in the left lobe, by a branch of the left division of the hepatic duct. The small duct was carefully traced till it was seen to open into the abscess, the parietes of which were very irregular, from the unequal absorption of the hepatic substance. The abscess that appeared externally was situated in the anterior and superior part of the

right lobe; and it was observed that the incision, which had in one point penetrated the posterior portion of the sheath of the rectus, had left a slight mark on the peritoneum covering the abscess, which, notwithstanding this, was smooth and healthy, and had been in noway excited by the operation. The colon was studded with ulcers.

Mr. Malcolmson observes that there can be no doubt that the very peculiar symptom of a loud sound, partaking of the character of a bleating and of an ordinary respiratory murmur, but audible at some distance by the bystander, and accompanied with a strong vibration of the part of the chest from which it proceeded, was caused by the thin edge of the lung being compressed against the costal pleura by the enlarged liver.

Among several interesting observations of Mr. Malcolmson's was select the following practical remarks on the opening of hepatic abscesses.

"But while satisfied of the propriety of making an early opening, when it can be done with safety, I think that the case above recorded will show, that when an abscess comes forward below the margin of the ribs, an operation should not be performed until the tumor has not only protruded, but decidedly *pointed*; as in such cases (and it is unfortunate that those are the examples in which recovery is most likely to occur) there is too often no adhesion of the covering of the abscess to the parietes of the abdomen; and, notwithstanding the opinions of several authors to the contrary, it is impossible to believe that, in such circumstances, the pus would not be effused into the cavity of the abdomen and destroy the patient. During the time M'Donald's case was under treatment, a recruit of the Madras European regiment died of an abscess of the liver, which protruded to a great extent below the margin of the ribs, and in which the matter appeared to be very near the surface. The skin over the part was tense, œdematous and covered with enlarged and tortuous veins; and it was only after very anxious consideration, and chiefly on account of the otherwise hopeless condition of the patient, that I was deterred from operating; yet on dissection it was found, that no adhesion whatever had taken place. It is true, that there are few cases on record, in which death has occurred from the effusion of the pus of hepatic abscesses into the abdominal cavity, but such examples do occur both in this country and between the Tropics, although it seldom happens that they are submitted to the public.

But not only are we unable, by the mere presence of fluctuation, to ascertain that adhesion has taken place, but it is not always easy to be assured that we can reach the matter; even when it exists in large quantity. In 1823 I examined the body of an officer, who died of hepatic abscess, in whom it had been proposed to make an incision in the epigastrium, to evacuate the matter, but the measure was objected to by an experienced practitioner, who was consulted, and the operation was not performed. On dissection it was found, that the matter could not have been reached, and although I did not see the case during its progress, it was evident, from the appearance of the swelling in the dead body, that the mistake might very readily have been committed. I do not say, that this will happen in the practice of men accustomed to treat deep-seated abscesses, but I have heard of cases where the melancholy error was committed, and it is therefore right to point out the possibility of its occurrence." 105.

We should observe that Mr. Malcolmson relates another case of the peculiar bleating murmur occurring in simple enlargement of the liver. His knowledge of its cause enabled him to relieve the mind of the patient, a surgeon in the Madras army.

III. ON A SUCCESSFUL PLAN OF ARRESTING THE DESTRUCTION OF THE TRANSPARENT CORNEA FROM ACUTE PURULENT INFLAMMATION OF THE CONJUNCTIVA. By FREDERICK TYRRELL, Surgeon to St. Thomas's Hospital, and to the Royal London Ophthalmic Hospital.

Mr. Tyrrell, it is well known, has paid much attention to diseases of the eye, and is practically well acquainted with their treatment. His observations, therefore, demand attention.

Mr. Tyrrell remarks, at starting, that acute purulent inflammation of the conjunctiva is too well known to be occasionally destructive to the eye, in spite of the most active remedies of all descriptions. Their failure led him to study more attentively the progress of the disease, and the mode in which it implicates and destroys the cornea. He first says a little on the anatomy of that tunic.

Passing over its lamellar tissue, and its mode of junction with the sclerotic, we may state that Mr. Tyrrell advocates the extension of the conjunctiva over it. Th's he is principally disposed to ground on the phenomena of morbid action, which, he says, also prove that the principal vascular supply of the cornea is obtained from the vessels of its conjunctival tunic, for in all the diseases or injuries of the cornea, which cause distention of the vessels by red blood, so as to render them perfectly visible, the principal or largest vessels are invariably preceived ramifying in the conjunctival membrane, and from these large vessels more minute and extremely delicate ramifications can be frequently traced into the substance of the cornea itself; this is obvious in corneitis or inflammation of the substance of the cornea, and again in the chronic diseases of this structure, such as result from continued strumous conjunctivitis, or from the irritation of the granular eyelid, also, in the healing of ulcers of the cornea,

Mr. Tyrrell goes on to assert:—

“In pure inflammation of the cornea, I have frequently seen the vessels of the conjunctiva passing from over the sclerotic to the surface of the cornea, and then ramifying most minutely in the substance of the latter, and at the same time, I could scarcely discover a vessel filled with red blood in the sclerotic tunic itself, even when the vessels of the cornea have been extensively injected with red blood. I have been thus satisfied that the vascular organization of the cornea is principally derived from the conjunctival, and little, if at all, from the sclerotic vessels.” 417.

: The posterior surface of the cornea is lined by a serous membrane, which receives its principal vascular supply from the vessels of the iris. After supplying the membrane, some very minute ramifications pass to the posterior or internal laminae of the cornea; but these are few and insignificant to those which the cornea derives from its conjunctival layer. During the repair of ulcers, which have extended through the aqueous membrane into the posterior laminae of the cornea, Mr. Tyrrell has been able distinctly to trace the vessels of the aqueous membrane and the delicate ramifications to the cornea.

The nerves of the cornea are mainly derived from the fifth cerebral. Mr. T. believes that their distribution follows much the same course with the arteries.

Such are the chief anatomical facts that he insists upon. He next passes to the description of acute purulent conjunctivitis. This is important. We would direct our readers' notice to it.

"The morbid action commences in the palpebral conjunctiva, with itching, smarting, or burning sensations, a sense of grit and weight in the lids, and stiffness: a light yellow secretion at first is poured out in small quantity, which collects and coagulates on the cilia, and at the canthi; at this time, the membrane lining the palpebræ is found of a deep carmine colour, thickened, and its villi prominent, so that it presents an appearance somewhat resembling that of the mucous surface of a finely injected foetal stomach; the cilia are loaded with coagulated secretion, and the surface of the globe suffused with lachrymal fluid and purulent secretion. This may be termed the first stage.

Next some severe and continued pain is experienced, the eye feels exceedingly full or distended, the sense of weight and stiffness of the palpebræ augments the morbid secretion becomes very copious, and of a deeper colour; the ocular part of the conjunctiva at this period participates in the disease; it first assumes a pink colour, from the injection of its vessels minutely by red blood, (this is, however, limited to the sclerotic portion of the membrane,) next it becomes thickened and villous, and afterwards raised by deposition in the cellular tissue between it and the sclerotic, so that it is elevated around the margin of the cornea; and this elevated condition of the membrane is termed chemosis. At the time in which this conjunctival change takes place, on the surface of the globe, the palpebræ become tumid, red, and painful; and the tegumental surface tense and shining, as if affected by erysipelas.

The deposit in the cellular tissue beneath the sclerotic portion of the ocular conjunctiva, is of serum or fibrin, or of both; it usually commences at the inferior part, and gradually extends upwards. The chemosis, therefore, may be incomplete, or complete, as surrounding the margin of the cornea partially or entirely: when it is complete, the cornea is in momentary danger by destruction of its vitality, which takes place in the following manner: the elevation of the sclerotic part of the ocular conjunctiva by subjacent deposit, renders it tense, and creates so much stress and tension on that part which is firmly bound down over the junction of the cornea and sclerotic, that the circulation through its vessels becomes impeded and ultimately arrested, so that the principal vascular supply of the cornea is cut off, and it dies or mortifies in part or in toto. The cornea first assumes a nebulous appearance, but its brilliancy remains; this, I believe, to result from the deficiency of the interlamellar fluid, in consequence of impeded circulation; it resembles closely the appearance which may be produced by pressing the cornea firmly with a narrow body, so as to press the lamina together, and exclude the interlamellar fluid. This nebulous state is usually general, and of short duration, and is succeeded by a dull and dense opacity of a part or of the whole of the cornea, which, at the same time, loses its brilliancy. There is not, at any time, evidence of any inflammatory action, either in the cornea or in its conjunctival covering, and the destruction of these parts is usually too rapid to be the result of such morbid action in the textures themselves.

The cornea then mortifies from a strangulation of its blood-vessels, and this strangulation is produced by the chemosis or the elevation and tension of the conjunctiva, which covers the sclerotic. In proof of the rapidity with which the cornea is destroyed, I can state that I have ascertained it in one instance to be perfectly sound at eleven o'clock, and found its destruction complete at seven o'clock following; but I believe the mischief to be even more quickly accomplished in many cases." 421.

This view is not only probable in itself, but it is consistent with all we

know of diffuse cellular inflammation. It harmonizes with the great facts and generalizations made out from the study of that large class of inflammatory affections.

The idea that sloughing of the cornea depends on the chemosis cannot be admitted to originate with Mr. Tyrrell. We will quote for example, a passage from one of the latest books on diseases of the eye—that of Mr. Middlemore.

“When sloughing of the cornea takes place in the progress of purulent ophthalmia, it is not generally from the occurrence of inflammation of that tunic, but from the interruption to its nutrition owing to the compression caused by the chemosis. Severe and prolonged chemosis causes mortification in the case in question, as I apprehend, because it generally takes place where such chemosis exists in its severest form. Sloughing of the cornea is more frequently associated with chemosis than with any other affection of the organ of vision. And it may be mentioned, in additional evidence of the truth of this position, that in all such instances the mortification begins in its superficial layers. Each layer of the cornea appears to have a certain dependence on its neighbouring lamina, many of its nutrient vessels ramify in the connecting cellular membrane, and, when this is destroyed, a part of its means of vitality is taken away. When one layer of the cornea sloughs, its infrajacent cellular membrane soon perishes, this hastens the death of the circumjacent cornea, and in this way the death of some new part of the cornea is almost certainly secured, or at least much assisted by the destruction of another.” 125.

It will be observed that though Mr. Middlemore admits the tendency of excessive chemosis to occasion sloughing of the cornea, he does not point out the mode, nor does he explain the principle of action. But to proceed.

A r. Tyrrell, of course, perceived the necessity for division of the chemosed conjunctiva, in order to relieve the tension. That many have done before him. But he also saw, or seemed to see, the utility of making that division in such a manner that the vessels employed in the nutrition of the cornea should not be prevented from executing their office.

He determined therefore to raise and secure the upper eyelid as far as possible, as in the operation for extraction, and then to make free incisions into the sclerotic portion of the ocular conjunctiva, and the subjacent loaded cellular membrane, without injury to any other textures of the globe. He considered it essential that the incision should extend close to the margin of the cornea where the tension and pressure would be greatest, and that the direction of the wounds should correspond to the intervals between the insertions of the recti muscles, so that the principal vessels of the conjunctiva of the globe should not be injured.

“I was aware,” he continues, “that incision or excision of parts of the conjunctiva had been suggested and effected in the condition of chemosis, and that the result of such treatment had not been very satisfactory; this want of success, however, appeared to me as a consequence of the misapplication of the principle, and not from error in the principle itself; for the incisions in the membrane, or excisions of portions of it, had been generally made in a direction corresponding to that of the margin of the cornea, and frequently extended completely around it; thus the vessels passing to the corneal portion of the conjunctiva must have been in great part, if not entirely divided, and the supply of the corneal portion and of the cornea cut off or nearly so; the operation tended therefore rather to augment than diminish the mischief it was meant to arrest. This error arose

from ignorance of, or inattention to the anatomy of the organization of the part." 422.

It will be observed that Mr. Tyrrell's directions differ materially from those which have been hitherto given. His are calculated to prevent complete division of the nutritive vessels—the others would tend to produce that. To prove this we will again quote from Mr. Middlemore:—

"The treatment of chemosis, (in addition to that adapted to the removal of the inflammation, of which it is frequently an effect,) will consist in the application of leeches immediately above the eye-brow, the employment of alum and zinc lotions, the use of the nitrate of silver drops, and the free scarification of the swollen part. This operation is best performed in the following manner:—request an assistant to elevate and evert the upper lid, and, standing in front of the patient, depress the inferior palpebra with the fingers of the left hand: (that is, presuming the chemosis is not so extensive as to project between the eye-lids), you then draw an instrument, similar to that employed by Mr. Wardrop, carefully, though not very slowly, along the surface of the tumid conjunctiva. With an instrument of this kind you need not be apprehensive of scarifying too deeply, for the effusion in the subconjunctival cellular membrane will prevent the risk of injuring the sclerotica, and it will be quite necessary to divide the conjunctiva completely, for, without such division you can neither effectually relieve its tension, nor completely sever many of its enlarged vessels, nor sufficiently discharge the least consistent portion of the effused fluids. If you employ a lancet or an instrument brought to a sharp point, you will be likely to inflict a good deal of unnecessary pain. You cannot divide the swollen part at all rapidly for its point will occasionally dip deeply into, and become entangled in, the conjunctiva; neither can you divide it equally, regularly, and safely, for in some parts of the incision the conjunctive membrane will be scarcely even scratched, while in other situations it, and the cellular membrane beneath, will be very freely severed, and the sclerotica also may be injured. In spite of every care that may be employed, if a sharp-pointed instrument be used, you will be liable to divide the chemotic surface and texture, in a slow, interrupted, and irregular manner. The small instrument suggested by Mr. Wardrop,* the cutting edge of which has a convex outline, is therefore far better than a lancet for this purpose." 63.

Mr. Tyrrell relates seven cases in illustration of his views. We will relate one of them, because it will be sufficient to exhibit his plan and its effects.

Case 1.—A robust young man applied at the London Ophthalmic Hospital with acute gonorrhœal purulent ophthalmia in one eye. The palpebræ were excessively swollen, tense and shining, the morbid secretion thick, copious and of a deep yellow colour mixed with green; the chemosis was complete, and the cornea generally hazy or nebulous; but its surface was brilliant except at one point, at its nasal side close to its margin, where mortification had begun. The disease had not existed twenty-four hours.

Mr. T. immediately divided the chemosed conjunctiva freely from the

* "This instrument was employed with great advantage by Mr. Forbes, for the scarification of the mucous lining of the lids, in the acute form of purulent ophthalmia which prevailed in Edinburgh Castle in 1807.—(*Edin. Med. and Surg. Journal*, vol. iii. p. 430)."

margin of the cornea towards the orbit once or twice in each space between the attachments of the recti muscles, making in all six or seven incisions; they were affected by means of the knife used in the operation of extraction to divide the cornea; the point being inserted just over the junction of the cornea and sclerotic, and passed outwards, the back of the knife being kept close to the sclerotic, as its acute edge divided the affected membrane; each incision had a direction radiating from the centre of the cornea. The chemosis was firm and principally fibrinous. Directly after the operation hot water was applied to encourage the bleeding. Soon after, the patient was bled from the arm, to the extent of about fourteen ounces, sufficient to relieve the fulness and firmness of his pulse; he took fifteen grains of calomel and colocynth, and was further directed to take calomel, gr. ij. opii. gr. ss. every six hours; to apply leeches freely to the palpebræ if pain recurred, and to bathe the eye frequently with a decoction of poppy, warm; his diet was to consist of gruel, tea, toast and water, or soda water.

Next morning, the disease was checked. The largest portion of the cornea had recovered its transparency, but an oval spot equal to about one sixth of the whole was dead; the chemosis and tumefaction of the palpebræ were much reduced; the conjunctiva was but lightly coloured; the morbid secretion was thinner and less copious, and he was free from pain: his medicine had acted freely, and he had applied a dozen leeches to the eyelids on the preceding evening. A continuation of the plan was ordered.

In forty-eight hours after Mr. T. had divided the chemosis membrane, the acute stage was annihilated, and he left off the calomel and opium; partook of a more generous diet, being allowed a moderate portion of animal food, and he began to use a solution of alum (gr. ij. ad ʒj.) and a very weak preparation of the citron ointment at night (ʒss. ad ʒij.) to the affected eye; at this time the secretion had become thin and white, the swelling of the palpebræ and chemosis were but trifling, and the mortified part of the cornea had begun to separate; the patient recovered rapidly under a gradual augmentation of these means, and escaped with a small, dense, opaque cicatrix in the cornea, which did not interfere with vision.

Mr. Tyrrell winds up his paper with the following brief observations:—

“In conclusion, I beg to observe, that I do not claim the merit of being the first to propose division of the chemosed conjunctiva, as a means of relieving the cornea from risk under acute purulent inflammation, for, as I have observed, I was previously aware of such a plan having been proposed and effected, but I trust that I have given a satisfactory explanation of proper principles and effects of the operation, and shown that it is adopted on a scientific basis, is safe and easy of performance, and more efficacious than any plan hitherto proposed. Besides, it possesses these advantages:—

It renders unnecessary active depletion, or the adoption of any severe general or local measures, likely to injure the general health, or to produce severe suffering.

It cannot increase the risk of the case.

It has been tried sufficiently to warrant my stating that it will rarely be found to fail; and I offer it with confidence to those, who, I feel satisfied, will give it a fair trial, and decide candidly and honestly on its merits.” 434.

It is a valuable paper and we again recommend it to the attentive consideration of our readers.

IV. A CASE OF HYDATID OF THE LIVER, SUCCESSFULLY TAPPED. By WILLIAM TRAVERS COX, M.D. of Yarmouth.

G. S. a coal-heaver, aged 32, muscular and sallow, complained in January 1832, of pain in the epigastrium, with occasional sickness. He was relieved, but, two or three months afterwards, he was a patient in the Norfolk Hospital with a relapse, accompanied with ascites. He left the hospital, and was put through a course of mercury, when the abdomen decreased in size, but increased again. He then consulted Dr. Cox.

He was jaundiced; his pulse 75, of good strength; bowels irregular; tongue furred, moist; no pain, except tenderness in the umbilical region, and upon deep pressure, in the loins. Calomel and squills, tartar emetic ointment, and various diuretics were tried without effect; the belly became distended to an enormous size, and the patient consented to be tapped. On October 26th, this operation was performed by Mr. Taylor, sen., and twenty-one pints of fluid were drawn off, appearing of the colour and consistence of ordinary bile. One ounce of this, evaporated, left half an ounce of coagulated fibrine and colouring matter, which latter was, for the most part, soluble in rectified spirit.

On examination after the operation, the liver was found considerably enlarged. Dr. Cox now resolved upon the use of iodine internally, and externally by friction on the region of the liver. The patient took iodine with nitrate of potass and a diuretic drink; at the same time, he took occasionally small doses of elaterium, and had the strength supported by a moderately nutritious but unstimulating diet. Under this treatment, there was an increase in the quantity of urine, which, from being high-coloured and depositing a copious sediment, became pale, clear, and not turbid, as formerly, on the application of heat. From the time when the operation was performed, there was no fresh accumulation of fluid in the abdomen; the liver at the end of some weeks was very sensibly decreased in size, the stools were tinged with bile, the kidneys acted regularly, there was no pain or tenderness, and the man's health, strength, and appetite becoming nearly as good as formerly, he returned to his employment as a coal-heaver.

In April 1836, Dr. Cox again attended him as a dispensary patient with Mr. Alared, the surgeon of the institution. He had been well until two months previously, when he was seized with severe pain of the right side with cough, dark expectoration, and fever. The cough and severe pain had continued, and when he presented himself at the dispensary, he was expectorating large dark coagula, occasionally offensive puriform matter, and large quantities of dark fluid blood. His pulse was soft, full, and rather more frequent than natural; his tongue red and moist; his face slightly jaundiced; he had irregular perspirations and rigors, and had lost appetite and flesh. The sound, on percussion over the upper parts of each lung, was sufficiently clear; on the lower lobe of the right lung dull. Respiratory murmur over the left lung loud, almost puerile; on the right mixed with a mucous and sibilous r  le superiorly; inferiorly and posteriorly, over a circumscribed space, was a loud loose r  le or "gargouillement," which could be traced up to the root of the lung. In the same situation, could occasionally be heard a loud circumscribed bronchial or cavernous resonance of the

breathing and voice. Dr. Cox concluded that there was broken up structure towards the posterior part of the base of the right lung, probably in connexion with the disease on the upper surface of the liver. Under appropriate treatment, the hæmoptysis and other expectoration were arrested, and the health improved; but, in two or three months, the hæmoptysis again returned, was checked, re-appeared, when the patient brought up two hand-basins full of blood, and died on the 4th of November, 1837.

Dissection. The lungs collapsed but little, their upper lobes, especially that of the left, contained tubercles in different stages of maturity, and they were loaded with frothy sanguinolent fluid throughout, except towards the base of the right lung, which was firm, uncrepitating, and adherent to the diaphragm, posteriorly even by a ligamentous union. On dividing this part of the lungs, a small cavity was seen lined with firm, almost cartilaginous membrane, and containing clots of dark grumous blood, puriform matter, and pieces of coagulated fibrine. This cavity, of almost the diameter of two fingers, was continuous with a dilated bronchial tube, whose lining membrane was thickened, and here and there ulcerated. One or two vessels opened into the cavity. The surrounding lung was condensed, and of a greyish yellow colour, but not presenting tubercles, or, any other loss of substance than this described.

“The first object seen or regarded upon opening the abdomen was a large distended cyst with a smooth surface, occupying, as at first appeared, the position of the gall-bladder, and supposed to be that viscus distended considerably. But when the liver was completely exposed, and the cyst brought well into view, it was found attached by a small portion of its surface to the right of the gall-bladder, and in the front of the transverse fissure. The gall-bladder itself presented nothing unnatural in appearance; the liver was somewhat enlarged, and throughout in a state of uniform venous congestion. Circumstances prevented any further examination of the body. The cyst, however, we got leave to remove. It was attached by almost a fifth part of its surface to the substance of the liver. It had no other connexion than through these filiform products of the fibrous coat of the liver. This spread out into a fibrous investment which covered the whole surface of the cyst, and which is partly dissected off. When removed, it was of an oval shape, about four times the size of the gall-bladder, contracted in its centre, where was a small piece of cartilaginous structure. It was fully distended, elastic, and semitransparent toward its surface, upon being held before the light. It was necessary to make a large opening before the contents of the cyst could be removed. Upon doing this, a firm transparent yellow gelatinous mass was squeezed out, which presented exactly the shape and smooth surface of the cyst. On examining this, it was found to consist of concentric layers, which could easily be unrolled one from the other. They were about two lines in thickness; the outermost, those nearest the cyst, were most transparent and had least colour. Toward the centre they became more opaque, yellow, less firm, and distinguishable; and within all was a quantity of concrete bile. The outer layers were so firm, that they could not easily be torn. They were rendered more firm and opaque by the application of heat, became softer and more transparent in sulphuric and nitric acids, and again firm and opaque upon the addition of water. Between these fibrous layers, lay here and there small pieces of a substance resembling that which is used in the dissecting room for injecting the arteries, of a waxy feel and consistence, and of a bright vermilion colour. The inner surface of the cyst is smooth and serous, but abraded in places by the deposit of a concrete bilious matter, which has not been removed by maceration in water and spirits.

As I have avoided, in drawing up this case, unnecessary details, I shall, for the same reason, abstain from conjectures and comments upon the circumstances, whose interest is, I hope, sufficient to excite the attention of those whose pathological investigations have been more extensive than my own. 337.

Dr. Bostock adds in a note:—

“I received from Mr. Perry a small quantity of the red substance mentioned above, with a request that I would examine its properties. It was of a very bright red colour, and, on the first view, much resembled the injection which is used by anatomists; but, on a closer inspection, it presented somewhat of a granular or fibrous texture, and seemed to consist of two substances, very minute red particles, imbedded in a mass of a different kind of matter. It was not fusible, and, when heated on bibulous paper, did not produce a greasy stain. A small portion of it, being exposed to a low red heat, swelled out very considerably, and at length burst into a bright flame, leaving a bulky carbonaceous residuum. Supposing that it might be some modification of the hepatic secretions, I subjected small portions of it to the various re-agents which produce the most marked effect on the resin of the bile, or the specific matter of biliary calculi, but without any very satisfactory or decisive results. It was scarcely affected by boiling water, alcohol, sulphuric ether, or the essential oil of turpentine, and it was but little acted on by liquid chlorine and by muriatic acid. By being digested in boiling water its texture was destroyed, and the water was tinged of a brown colour, but no further effect was produced. No effect was produced by digesting the substance for twenty-four hours in alcohol, except that it was rendered somewhat firmer in its consistence. No effect was produced on the substance in question by sulphuric ether, the essential oil of turpentine, or liquid chlorine. Diluted muriatic acid, after being digested on the substance, acquired a yellow tinge, while the red colour of the substance was rendered somewhat less bright, but no further effect seemed to be produced. The action of nitric acid was more powerful, the acid acquired a blood-red colour, while the substance was broken down and converted into a soft, whitish, saponaceous mass. The addition of potash threw down a small quantity of a white flocculent precipitate, showing that a slight degree of solution had taken place. The re-agent which produced the most powerful effect was potash. A large proportion of the substance was apparently dissolved, but the red colouring matter subsided in the form of very minute particles; the fluid was rendered opaque and brown. Being passed through a filter it became clear, and gradually assumed a dingy green colour, while a thin film of yellow matter, which resembled dried bile, was left on the paper.

I regret that I am able to offer so little that is satisfactory respecting the nature of this red substance, but it may afford at least some apology for my want of success, when I state, that the whole amount of the substance on which I had to operate, was not more than between five and six grains.” 339.

It would be idle speculating on the chemistry of the case. Its principal pathological interest hinges on the benefit obtained from the puncture of the cyst. The cases of aqueous cyst published by Sir B. Brodie and Mr. Hawkins—of hydatids or hydatid cyst reported by Dr. Bright, &c.—and the present, are calculated to encourage surgeons in operating on them and removing their contents.

V. ON THE USE OF ARSENIC IN SOME AFFECTIONS OF THE UTERUS.

By HENRY HUNT, Esq. of Dartmouth.

In 1831, the attention of Mr. Hunt was first directed to the effects of

arsenic upon the uterus. A woman, who was sinking rapidly under ulcerated cancer of the uterus, was relieved of the pain under which she had laboured, so soon as the effects of arsenic which she was taking displayed themselves. He was encouraged in the idea that arsenic might be serviceable in uterine complaints, by Dr. Locock, who told him that he had cured a lady of menorrhagia by arsenic, having recommended it to her for a disorder of the nose, being ignorant at the time that she was subject to the former disorder—she having neglected to mention it, considering it quite irremediable, as it had baffled the skill of every physician she had hitherto consulted.

Mr. Hunt relates nine cases in which he prescribed the arsenic with more or less advantage. As these facts come under the denomination of empirical experience, it is proper that they should be known. We shall give therefore what seems a sufficient account of them. The first six cases are instances of menorrhagia.

Case 1.—Mrs. N., æt. 42, was subject when young to hysteria. At her third pregnancy, sixteen years ago, she was delivered of three children. Her recovery was slow; for many months she was unable to sit upright, and has never since regained her former strength, having been kept in a state of great debility by profuse menstruation. The discharge was not only too profuse, but continued eight or ten days uninterruptedly, and returned again at the end of a fortnight, or sooner, if she had any anxiety or fatigue; and her debility was further increased by an irritable state of the bowels, which almost invariably came on three or four days previous to the menstrual period. Many remedies had been tried, with only temporary benefit. In the Summer of 1835, Mr. Hunt gave her the liquor arsenicalis (Ph. Lond.), in doses of four drops three times a day, with ten of the tinct. camphoræ comp. commencing immediately after being unwell. The result was most satisfactory, for she did not menstruate again until two days beyond the natural time, and when she did, the discharge continued only five days, and was not more in quantity than it ought to have been; neither did the diarrhœa supervene. She then left off taking the arsenic regularly: but for the three or four succeeding months, she took it again for a week previous to the menstrual period, since which she has continued regular, is stronger and less hysterical than she has been since her confinement.

Case 2.—“Mrs. B. P., æt. 34; married; of a delicate habit; has borne seven children, and has miscarried three times. Since the last confinement, which happened two years ago, she has menstruated too frequently and too profusely, and has been also weakened by leucorrhœa, having seldom, during the last year, passed three days together free from the menstrual discharge. Her bowels have also been much relaxed, her tongue red and shining, and she has been harassed by a troublesome cough, with much expectoration: her strength and flesh were so much reduced as to make her case a very unfavourable one. I gave her a pill containing the twentieth of a grain of the arsenious acid, with a draught, containing Liq. Calcis ʒss. Sirup. Sarsæ ʒiij. three times a day. She commenced taking the medicine on the 27th of September, 1837, and for three weeks there was no improvement, excepting that the bowels were less relaxed. On the 19th of October, the menstrual discharge ceased, and did not return until the 28th of November, when she menstruated naturally and for six days only. She continued taking the medicine one month longer, and has now regained her usual strength and flesh, her cough has almost ceased, and she has since menstru

ated at the proper time. This lady had previously consulted three or four medical men, without deriving benefit from their prescriptions," 280.

It will be noticed that this lady took sarsaparilla as well as the arsenic. The results are therefore not so distinct, the effects of arsenic not so appreciable, as could be wished.

In case 3, a lady aged 42, had suffered for three or four years from menorrhagia, which succeeded an obstinate diarrhœa. She took the pills at two distinct periods and was benefited each time by them.

The remaining cases are of much the same complexion as the preceding ones, and certainly seem to shew that arsenic exerts some power in checking menorrhagia. In none of the cases, did inflammatory or organic alterations appear to exist in the womb.

The following are cases of another description.

Case 4.—Irritable Uterus? Mrs. B., aged 30, married, but never pregnant, consulted Mr. H. in June, 1837. She laboured under a constant pain with heat, varying in severity, in the lower part of the sacrum, in the left groin, and under the pubes, and bearing down, which was much increased by walking, standing, or sitting upright, by a costive state of bowels, or by the action of purgative medicine. She was easier in bed or reclining on a sofa; her urine was sometimes high-coloured, at other times pale, her pulse rather quickened. On examination, per vaginam, the uterus was found to be tender and rather tumid. She attributed her disorder to the menses having been suddenly checked by exposure to cold three years before. She had consulted many medical men, who had bled her generally and locally, and always with temporary relief; purgatives, opiates, the warm and cold baths, and numerous other remedies, having been employed without any lasting benefit.

"Thinking this to be a case of chronic inflammation of the uterus, I confined the patient to her bed, and for six weeks kept her under the influence of a mild course of mercury with nitre and colchicum. While she remained in bed she was easy, but the pain returned with equal severity immediately on her leaving it and taking exercise. I then sent her home, and directed a pill, with 1-20th of a grain of arsenic, to be taken three times a day, which she continued four months, at the end of which time the pain, which had gradually decreased after she had taken the pills six weeks, entirely ceased. She now attends to the active duties of a bakehouse, and only suffers pain about the time of her menstruation. This case may perhaps be considered similar to those described by Dr. Gooch as the irritable uterus." 284.

The next case is one for which arsenic would probably be administered by the majority of good practitioners—neuralgic pain in the face, returning regularly a few days previously to the patient's being unwell; she gradually recovered under the long-continued, though intermittent use of the liquor arsenicalis.

The last case is one of irregular menstruation.

*Case 6.—*Mrs. H., aged 34, was for many years irregular; the menses seldom returned too frequently, but generally at the end of five or six weeks, or even longer. When this happened, she had much pain in the loins, head, or chest, or under the sternum, but never simultaneously; sometimes it at-

tacked one part, then suddenly quitting it, it attacked another, varying frequently during the day.

These erratic pains were more severe, the longer the return of the menses was postponed, but the instant they came on she was quite relieved. The menses seldom continued to flow regularly, but sometimes suddenly stopped when the pain in one part or the other immediately returned. She took three drops of the liquor arsenicalis twice a day for three months in the Summer of 1837, and at each succeeding period she suffered less, and the discharge has since returned quite regularly,

Mr. Hunt offers some sound observations on the probable mode in which arsenic acts upon the uterus. In cases of poisoning by arsenic, the genito-urinary mucous membrane is apt to exhibit decided signs of irritation and of inflammation, when life is prolonged beyond three days. In a case related in Pyl's collection, the inside of the uterus and even the Fallopian tubes were found inflamed.

"If the foregoing observations are correct, the benefit derived from this medicine may be explained by its acting on the mucous membrane of the uterus as a stimulant. It follows that the cases in which it would be given with the greatest advantage, are those in whom the disordered condition of the uterus had been induced and kept up by debilitating causes.

As it is frequently desirable to continue the use of this remedy for a considerable time, for large doses taken for a short time produce much distress without the desired effect on the uterus, the form in which it is most easily borne by the stomach should be selected, and I have observed that when it is given in pills containing 1-20th of a grain, it has produced less inconvenience than the common preparation, the liquor arsenicalis; I have therefore generally chosen that mode of giving it, and my patients have seldom complained of any unpleasant feeling from it, although in some instances it has been taken for many months in succession.

The stomach however does not become accustomed to it, as it does to many other remedies, so as to bear a gradual and continual augmentation of the doses; but on the contrary, the longer it is continued the greater is the inconvenience it occasions, so that instead of increasing, it is often necessary to lessen the quantity, after it has been taken some little time, or even to discontinue it for a week or two, and then resume it. Some individuals are much more sensible to its effects than others, but the most sensitive, by taking the pill immediately after meals, have been enabled to continue it as long as it has been necessary, while others can take two pills, or 1-10th of a grain, three times a day for a considerable period, without any unpleasant effect.

I need scarcely remark that great care is necessary in making the pills, in order that the arsenic may be evenly divided." 289.

Mr. Hunt's communication is a very interesting one.

VI. REMOVAL OF THE CLAVICLE, WITH A TUMOR SITUATED IN THAT BONE. By BENJAMIN TRAVERS, F.R.S. Surgeon Extraordinary to the Queen, and Senior Surgeon to St. Thomas's Hospital.

A healthy young gentleman, aged 10, a native of the East Indies, fell out of a wheelbarrow in the Summer of 1836, and hurt his shoulder. Ten days afterwards, his maid found a swelling the size of a hedge nut on the centre of the left collar-bone. Two months afterwards, Mr. Travers saw it,

when it was oval in shape, elastic, painful when compressed. We need not mention the treatment, which was of no service. After some months, the skin became slightly coloured from distention. Mr. T. introduced a grooved needle, but only a few drops of black grumous blood were discharged. In May, 1837, the base of the tumor from its scapular extremity occupied full three-fourths of the bone; about two-thirds of its circumference were supra-clavicular, so that, in the erect position of the body, it was seen by a person standing behind the patient over the fall of the trapezius. The skin had a purple hue from congestion of the superficial purple veins, but there was no sign of pressure on the blood-vessels or nerves of the arm.

In a consultation with Sir A. Cooper and Sir B. Brodie it was determined to remove the clavicle and tumor, which, assisted by Sir Benjamin, Mr. Travers did on the 6th June, 1837.

"The little patient being recumbent, with his shoulders raised and head slightly averted, a crucial incision was made through the integument and platysma myoides, one limb of which was nearly in the line of the clavicle, and the other at right angles; and the flaps and fascial coverings successfully dissected down to the external basis of the tumor. The pectoralis and deltoid muscles were then carefully detached from their clavicular origin, avoiding the cephalic vein, and the fibres of the trapezius and cleido-mastoid muscles divided on a director. One considerable vessel, in the situation of the transversalis humeri, required a prompt ligature. The circumference of the tumor was now well defined, though it was found to be firmly imbedded, and adherent on its posterior aspect. Disarticulation of the scapular extremity of the bone was next effected without difficulty, and the mobility thus communicated to the mass facilitated the completion of the operation. A director was now worked beneath the bone, as near to the sternal articulation as was practicable, and with a pair of strong bone nippers thus introduced, it was completely and clearly divided. The sub-clavius muscle and a part of the rhomboid ligament were now detached from the tumor, and the mass being well raised by an assistant, while the edges of the wound were kept wide apart by metallic retractors, the cervical prolongations of the tumor were separated from their remaining connections by a few touches of the scalpel, without injury to the subclavian vessels." 138.

The operation occupied some time, the loss of blood did not exceed twelve ounces.

At the end of a month, master P. was removed to Richmond. He then carried his arm in a sling, and the wound was nearly cicatrised. He has since, says Mr. Travers, and his observation extends to May, 1838, remained in perfect health, and it is worthy of observation that there is scarcely any perceptible falling forward of the shoulder, nor any restriction of the motions of the arm; he elevates it perpendicularly over his head, extends it horizontally, carries and rotates it behind the trunk, and performs the same extent and variety of circumduction, and with equal promptitude and power as the parallel movements of the other arm. Indeed, one of his amusements is rowing a boat upon the Thames. The production of bone of a cylindrical figure from the truncated sternal extremity of the clavicle extends at least two inches, and terminates beneath the centre of the cicatrix in a firm ligamentous band adherent to the skin.

Structure of the Tumor. This presented, writes Mr. Travers, on its anterior aspect a regular curvilinear surface, posteriorly it was irregular, dipping in prolongations between the interstices of the cervical muscles, to

which it was firmly fastened. This difference is at once explained by the resistance of the platysma and strong fascia supporting it in front, and the yielding of the intermuscular spaces below. A very dense fibrous expansion invested it on all sides, and from a puncture of the principal cyst in the operation, the same dark grumous fluid exuded as followed that made by the needle three months before. The section of the tumor in its longest diameter presented an arrangement of cells or chambers, of pretty equal dimensions, filled with dark solid coagula of blood, the edge of the scalpel grating as it passed upon particles of osseous matter. One larger compartment, deeply situated, was without a clot, having been filled with the dark fluid blood before mentioned. The investing membrane was evidently the condensed periosteum, the cells were the irregularly expanded cancelli, and the calcareous particles were the débris of the bony plates and walls.

Mr. Travers appends some good observations to the narrative of the preceding case.

In the first place, he thinks there can be no reasonable doubt that the tumor began in the cellular structure, and that it was the result, direct or indirect, of the fall.

In the second place, he examines the structure of the tumor, and endeavours to determine its precise nature. In this he cannot reasonably be expected to succeed, so difficult is it in many cases to determine to what class and species morbid growths are referable. The following appear to be Mr. Traver's principal ideas upon the subject.

"If it belonged to the class 'osteoneurism,' as described by M. Breschet, to which its structure offers the nearest analogy, I should say that it wanted the ordinary character of aneurism in being painless, at no time communicating the faintest pulsation, and on section not presenting any laminated fibrinous deposit, or trace of inflammation, other than the periosteal cyst thickened after the manner of a hernial sac. The simplest reading of the case is, that a medullary extravasation had taken place from the concussion attending the fall, or from a fracture within the periosteum, in either of which cases the effused blood, which in a perfect solution of continuity of the bone would have been absorbed, acted as a foreign body upon the surrounding textures, and by effectually stopping the osseous secretion and starving the bone, became the instrument of the absorbing process. Nor does it appear how in such cases the process of union should take place. According to the invariable law of tumors, the natural defensive process is set up in the external wall, whether the work of construction or destruction is proceeding in the interior, from the mere expansion of the part. But whether concussion or fracture had been the origin of the effusion which, retaining fluidity in one larger compartment, formed compact clots in the remainder, it is clear that in this case, the periosteum, being continuous, had not secreted bone, but organizable lymph agglutinating it with surrounding membranes, and that neither any process of preservation nor of active destruction had taken place in the bone, but a mere shelling of the animal structure by the removal of the earthy cells and walls. The inorganizable, yet inoffensive character of effused blood, when unexposed to air, could alone have originated and maintained this passive condition." 141.

Mr. Travers refers to four recorded cases of removal of the clavicle:—

One for a caries of the entire bone done in the hospital at Zurich in 1822, by a single incision along the lower edge of the bone without hæmorrhage or difficulty of any kind. The patient was afterwards able to perform all the

movements of the arm forwards, backwards, and upwards. He continued his avocations, and died six years afterwards of phthisis.

The remaining three operations were performed for osteo sarcoma. The first, upwards of a century ago, was by Mohring. Mr. Travers cannot obtain an account of it.

The case of Dr. Mott, of New York, occurred in the Summer of 1828, and is given, though abridged from the Medical Repository of that city, in ample detail, in the London Medical Gazette. The tumor of the left clavicle is described as being four inches in diameter, of a conical figure and incompressible hardness, and consisting of a bony cup, cartilaginous, or semi-osseous towards the centre; the two ends of the bone being movable upon one another, so that its proper structure was entirely destroyed. The operation appears to have been performed with skill and courage, and was doubtless a difficult one. The case terminated most successfully. The patient is now a clergyman in Charlestown, South Carolina. There is no falling of the shoulder, nor any alteration of its symmetry.

A case of Dr. Warren's, of Boston, is the fourth. The tumor in its greatest transverse diameter, measured 7 inches, was hard, and conveyed an indistinct pulsation, being situated at the sternal end of the right clavicle. The operation was happily performed and concluded, but the patient exposed himself to cold on the 13th day, and died in the fourth week from the operation, of pleuritic inflammation. In both of these cases the acromial extremity of the bone was sawn through with a chain saw, and the sternal end in the first disarticulated; how it was detached in the second, is not mentioned. In both, the external jugular vein was tied.

The profession is indebted to Mr. Travers for publishing this case, which seems to have been treated with sound judgement and decision.

VII. CASE OF EXCISION OF THE ENTIRE LOWER JAW; WITH OBSERVATIONS.

By JOHN G. PERRY, Surgeon to the Foundling Hospital, and one of the Secretaries of the Society.

Maria Pitchford, aged 20, became affected, at the age of 14, with severe pain of the right side of the face, affecting all the teeth in that side, and depriving her of rest and of the power of mastication. The pain shortly afterwards extended to the other side also; but was unattended with redness or swelling. In the course, however, of a few months, the lower part of the face was observed to increase in size. This still augmented, and, at the expiration of several years, she had a fresh accession of pain and inflammation. Matter formed, and discharged itself at several apertures.

When admitted into the Marylebone Infirmary, early in the last year, under Mr. Perry's care, the case presented the appearance of necrosis in the advanced stage.

"There were several sinuses opening around the chin, discharging tolerably healthy pus, the dead bone was evidently encased in a deposit of recent formation, which, at that time, there was no ground for supposing to be dead also. No treatment seemed then to be required, beyond the ordinary attention to the patient's general health, while nature should be occupied with the curative pro-

cess of separation. After a time, however, finding that no change seemed to be going on, I deemed it expedient to explore the condition of the bone by enlarging the aperture of one of the sinuses, when the cause of the tardy advance of the cure became apparent, the entire case of new bone being found to be dead, and to have separated in a great measure from the periosteum, which membrane was manifestly in a diseased condition.

The removal of the bone by artificial means being now the only course to be pursued, I determined upon the operation without any longer delay; and that no larger wound might be inflicted than was absolutely requisite, I resolved to divide the bone into three portions.

The patient being laid upon her back as nearly in the horizontal position as the feeling of suffocation would permit, an incision was made along the basis of the jaw from a short distance in front of the right masseter muscle to the corresponding point on the left side, in order to avoid the facial arteries, and to include the orifices of two of the principal sinuses. The bone thus exposed, was divided, by a saw and cutting-forceps, as near as possible to the angles of the wound, and the insulated portion being removed, the wound was lightly dressed. On the following day, the portion remaining on the right side, which had somewhat descended from the loss of the support of the central part, was removed without difficulty. The patient experienced much relief from these operations, and the suppuration diminished greatly. After an interval of three weeks I proceeded to remove the remaining segment, which adhered rather more firmly, but by means of some careful manipulation, was separated without materially enlarging the wound.

As might have been expected, from the long continuance of the disease, and the consequent separation of the parts, little hæmorrhage followed these several operations; in each of them great care was taken to avoid opening the mouth by cutting through the lining membrane, and the teeth were, when practicable, left in the gum, in the hope that when consolidation should take place, they might be found useful. The wound healed without difficulty, and the patient was discharged in a few weeks, to follow her employment.

I have seen her frequently since her removal from the infirmary: the last time three days ago. She is able to masticate solid food by the aid of the tongue, which rubs the morsel against the upper teeth; but as there is no reproduction of bone, the lower teeth are almost useless, for though they are firmly retained in their situation by some solid structure of new production, the consistence of that support has not been sufficient to resist the contraction resulting from the healing of the wound; consequently the circumference of the arc formed by the lower teeth is so much reduced in extent, as no longer to correspond with that of the upper." 293.

The face is less deformed than might have been anticipated. As Mr. Perry observes, the anomalous position of the teeth of the permanent series obviously indicates the existence of diseased action prior to the æra of the permanent dentition. The *new bone* was as obviously destroyed when the fresh pain, &c. and suppuration occurred, about her 18th year.

The case is a curious one and its record valuable.

VIII. NERVOUS AFFECTIONS PECULIAR TO YOUNG WOMEN, CAUSING CONTRACTIONS OF THE MUSCLES OF THE EXTREMITIES, ACCOMPANIED BY INCREASE, DIMINUTION, OR ABSENCE OF SENSATION OR MOTION. By JOHN WILSON, M D Physician to the Middlesex Hospital.

There are few inquiries more curious in themselves, or more fraught with value in their results, than those which seek to determine the influence of

the nervous system on the organs of the body. It is a subject of a philosophical as well as of a practical character, and affects alike the metaphysician, the physician, and the surgeon.

The grossest delusions have arisen from an ignorance of the extent to which the mind may act upon the body. Those delusions have been witnessed in every age, in every country, and in every class of men. They have operated in the religious and the medical world, and, for ought that we can see, they are likely still to operate in both. Who would have imagined that at this time of day there could have been discovered in our profession a man so credulous as to believe that compound of fraud and folly—animal magnetism? Had we been asked beforehand if such weakness was possible, not to say probable, we should have answered—"No." And yet that greatest of all miracles connected with animal magnetism has happened—men laying claim to education and to sense have actually been found to credit it. *Proh nefas!*

The "nervous affections peculiar to young women" deserve no little consideration. It is because they have not received sufficient that we daily see their nervous pains mistaken for inflammation of the lungs, the liver, or the heart—for caries of the spine—for diseases of the joints. It is because they are not understood, that the whimsical doctrine of "spinal irritation" has found so many advocates—a doctrine inconsistent with physiological reasoning, and supported by the most imperfect facts. And finally, it is to the vague acquaintance which men even in extensive practice possess with these same nervous affections of females, that the fooleries of animal magnetism have been countenanced at all in this country. Dr. Wilson's paper, then, deserves attention.

He relates nine cases. It is not requisite to cite them all; we shall merely pick out what prove essential points. It is impossible to abridge the cases, which are abridged to the uttermost already.

Case. Winifred Dowty, admitted 28th April, 1832, aged 24, single, ill ten days, with pain in the head and over the interior margin of the right lobe of the liver, to the extent of a crown-piece; catamenia always scanty, and often absent; subject to leucorrhœa; has been leeches, bled, and blistered without any relief.

A few days after admission, a pain came on in the right groin, as the pain in the region of the liver diminished; a fortnight after, the pain had extended from the right groin to the hip and down the thigh to the inside of the knee, followed by inability to move the right leg, or sustain any weight on it, with pain also in the occiput, and one of the inguinal glands hard and painful, with difficulty and pain in making water.

Hitherto, the chief treatment has been leeching, cupping, and mustard poultices, with the cold shower-bath, but she is now, the 14th August, in a much worse and more helpless state than when admitted.

The treatment was now changed, and two needles introduced daily from the hip down the thigh, in the direction of the pain, which remained in for two hours; ten days after could move the right leg and bear some weight on it; soon after was able to turn the toes out; the needles were daily continued to the middle of September, a moxa was applied above the spine of the ilium, and soon after she left the hospital perfectly recovered.

Here we see pain in the head, in the region of the liver, and whole of one thigh, with dysuria, aggravated by leeching, cupping, &c., and disappearing under the use of acupuncture needles and a moxa.

Case 2 "M. A., aged 23, removed from the surgeons' wards, 20th November, 1833, had been previously delivered in August, and has been ill ever since with constant pain in the inside of the loins, on the left side, also over the region of the pubis; lies with the right heel and leg drawn up under the left thigh; bowels confined; catamenia have not appeared since her confinement, sense of choking, with a bitter water rising in the mouth; pain in the loins increased by pressure; for the three weeks past, urine has been drawn off by a catheter. She had one warm bath at first; then the cold shower bath every morning, with two needles every day to the loins, for two hours; every second morning to have, jalap. ʒj. calomel. pulv. zingiberis āā gr. v.; the same powder was afterwards required every morning, after which she had ʒj. of carbonate of iron thrice a day;—at the end of three weeks the right heel and leg continued to be closely pressed to the left thigh; to prevent which, the emplastrum lyttæ cum euphorbio was applied to each of the parts in contact; the next day the empl. canth. was applied to the calf of the right leg; this caused a great discharge, of which she complained, as well as of the needles. The euphorbium plaster was afterwards applied to the calf of the leg, but during its discharge, she was excused taking the shower-bath; and when the parts healed, the double-inclined plane was applied to the knee, the angle between the two planes being regulated by a screw; but this she found irksome, and soon learned to regulate the inclination of the planes at pleasure, by turning the screw. Occasionally, when suddenly alarmed, as upon the approach of her medical attendants, she vomited blood. She afterwards lost all feeling of the right toes when pinched; sometimes made water without the catheter, but the pain in the loins persisted; the leg, in six weeks from admission, by the aid of the screw, &c., was brought to an angle of 139° with the thigh.

January 27. Has been up every day for the last week, never has been dressed before since her illness; looks and general health greatly improved, leg nearly straight, continues the inclined plane in the nights, and walks with crutches in the days. Catamenia never appeared, vomited three ounces of blood to-day; a troublesome discharge from the vagina, with pain in the groin, hip, and knee of the right side. There was a revolt in the ward this morning, and I was obliged to let her be discharged, though reluctantly. She came to see me in April, walking quite well, and free from the least lameness." 111.

We need not run over the symptoms of the manifold diseases under which this person laboured. We find her at last engaged in a "revolt," and two or three months after her dismissal, walking as well as she ever did.

The next case we shall introduce is an instructive one.

Case. Cordelia Smith, a robust girl, aged about 20, was brought in a chair from the surgeons' wards the 15th December, 1835; a week ago fell on the back of her head, and has had pain there ever since, with frequent succussions of the whole frame; now lies in a state of torpor, bowels confined, catamenia regular.

The head was shaved, and a mustard poultice applied to the back of the head; afterwards the occiput was cupped to ʒxij. and fomented; and iodine ointment applied, hydr. cum. cretā gr. v. ter die. and opening medicine.

Ten days after admission, she suffered severe and constant pain, with tumefaction about the occiput, shivering at times, and indistinct vision;

keeps the eyes closed, feels soreness, on being touched, over all the body, with pain in the epigastrium, to which twelve leeches were applied with relief; the severe pain was not afterwards confined to the occiput, but extended over all the head, so that she could not bear the ointment to be applied; on the 2d July, had a fit; the following day lay in a state of torpor, opening the mouth during inspiration and closing it on expiration, the head then not sensible on being touched.

January 25th. Vision continues indistinct, pain now confined to the right side of the head, and to the same half of the body; touching the hair causes soreness to the scalp; she evinces great sensibility to the slightest touch over the same entire half of the body, but the power of motion of the same side is diminished; a buzzing noise in the right ear; appetite good, but the same food sometimes tastes well, and at other times disagreeably.

The knee was still kept bent. The right knee to be stretched by the inclined screw plane; shower bath every morning; carbonate of iron \mathfrak{ss} . thrice a day; 2 needles for two hours every day; bowels were sometimes so obstinate that ext. of elaterium was given; moxa occasionally applied.

Feb. 26th. For the last eleven days has entirely lost all sensation and motion of the right arm; two needles were passed into the arm, but she evinced no sensation when they were put in and taken out. Yesterday morning felt a great pain in the right shoulder, followed by a sense of numbness extending from the same shoulder to the finger nails; in the evening was able to bend the fingers but not the arm; head comparatively well, intelligence continues perfect; the right knee continues bent, and very sensitive to the touch. Some days afterwards she had another fit, during which the right knee became straight, but when it was ended the right knee became bent again, and in some of the fits the knee could be placed in any position, as if nothing was the matter with it; she continued for some time longer to have severe fits, struggling, moaning, and screaming by turns; the respiration after them sometimes as high as 96. The most powerful remedy in the fits was the cold douche; in one of these fits six women and the house surgeon all pressed upon her to restrain the convulsions; two buckets of cold water were brought up, and an assistant standing on the bed with a jug-full, allowed the contents gradually to fall over the face, breast, eyes, and particularly into the mouth when open; this was repeated in the strongest fits.

Afterwards, when she was improving, she was made to stand for half an hour every day on the right leg, with her back to the wall, and a bedstead pressed against the bent knee to keep it straight, the left leg being raised on a chair; the cold douche was applied in the bath every morning to the bent knee, and sometimes the shower bath afterwards to the whole body, after which she was made to walk, with assistance, along the ward; and sometimes, when she raised the right foot to bring it forwards, a kick was given to the heel, and thus it went much more forwards than she intended or thought possible. Towards the evening, when tired and unable to walk more, she was seated upon a table, and a weight being tied to the right foot, she swung the leg back and forwards, thus giving motion to the stiff-joint.

April 16th. Going out to-day, walks well, and is only lame towards the evenings; has free use and sensation of the right arm, pains of the head entirely gone, some slight dimness of sight only remaining; catamenia

have all along been regular; since she has regained the use of her limb the fits have been more frequent, but less severe; is very fat and in good health.

She shortly afterwards returned to see Dr. Wilson. She was very well, free from lameness, and had a situation behind the counter at a pastry-cook's shop.

In another case, that of a young lady, who was "fat, lazy, and very difficult to manage, from having been so long in the hospital," the needles were unscrewed from the handles and allowed to remain in all night. So we see in these cases that insensibility to pain, or, at all events disregard of it, which has been so much insisted on as a proof of magnetic somnambulism.

A. Dr. Wilson trusts that he will be excused from attempting to reason on the causes of these nervous affections. Yet he makes a few remarks on them. He observes, for instance, that—

"The ancients thought that the uterus wanders about the body, giving rise to all the varied symptoms so commonly classed under the name of hysteria. The moderns deny this, and say that the same train of affections are produced by the nerves of the uterus communicating with the, sympathetic, and thence with all the other nerves of the system:—now, either description will amuse, but neither will much enlighten us." 122.

We must really protest against both these theories being considered equally amusing and obscure. The ancient one is simply false and absurd—the modern consistent with all the physiological knowledge we possess. To place them in the same category is neither, we think, reasonable nor fair.

B. "Often," says Dr. Wilson, "we find the patient attributing the cause of her lameness to some accident, as a fall, knock, or sprain, about the time of the lameness first being noticed: and it is very natural that she should do so, for patients are often as ready with a theory of cause and effect as medical men: the patient, however, often deceives herself, for she may become lame without having received any external injury of the parts affected." 122.

It appears to us that Dr. Wilson has not expressed the whole truth, although he has gone near it. The blow or accident often *is* the exciting cause of the complaint, *because* it directs her attention to the part. If there is any thing determined with regard to these nervous affections of young women it is this—that, the more their minds are turned to the consideration of their local disorders, the worse these become or are said to be. And if, which we strongly suspect to be the case, the pains and aches are occasionally purely fictitious, an accident, or the particular inquiries of the surgeon, give the cue with regard to the part that is to suffer. Almost all these cases are a compound of conscious and involuntary humbug.

C. "Again, they will often, at first, complain of the harsh treatment; and what is also remarkable, they will sometimes complain the most when the good effects of the treatment become visible, and do not seem to wish to be removed from that state, which ensures to them the attention and sympathy of those around.

But when you have by attention to all they have to say, and by kindness, accompanied by firmness, obtained a moral influence over them, which becomes a powerful agent when properly directed, they will often attend to your reasonings about their treatment, and aid you in fulfilling it; and should there be, at that time, a marked improvement, their anxiety for recovery increases; and though at first the treatment might have caused them much grief, they now be-

come grateful to you, and continue to have a great attachment to the wards, and to the nurses whom they have been under, and often return to pay them a visit after their recovery." 123.

Dr. Wilson never said anything truer than that patients of this sort occasionally do not seem to wish to be removed from that state, which ensures to them the attention and sympathy of those around. We repeat, what we have often said before, that in these cases there is deceit mixed up with morbid sensations. The morale like the physique is generally wrong. Ask one of these patients, in such a manner as to make her believe that it *ought* to be so, whether she has pain here or there, in her toes or at her occiput, and, ten to one, she says she has it. If you do not succeed the first time, you will bye and bye. Here is the secret of the "spinal irritation." By a similar process, and similar facts we could prove "irritation" in the fingers. Give hysteria licence and you may get almost any thing out of it—from pain in a joint when it is *not* moved up to magnetic clairvoyance. All the phenomena are much on a par.

No doubt kindness will go a great way with these patients. Kindness of a very *tender* description is almost specific. We have too often seen pathological libertines act on this hint with some effect, and the pupil has cured the young woman on whom the orthodox drugs of the physician and surgeon were fruitlessly expended. Dr. Wilson, we are afraid, betrays an amiable credulity in estimating the motives of the patients who return to the wards and the nurses whom they love. Gratitude may induce them, but we should say that it is gossip. These girls like to chatter with their old chums, and ninety-nine out of a hundred of them have no dislike to badinage with the young men. We have seen as much of these patients as Dr. Wilson has and that would be our version of the story.

"The facility with which this class of patients exercise a sympathetic influence over others is also remarkable; and even over the minds of nurses, who will be carried so far as to encourage them, by a ready attention in their vagaries and fancies. Hence the nurses were of no use whatever in carrying into execution some parts of the treatment, and without the aid of the resident medical officers, a plan so troublesome, and continued for such a length of time as many of the cases required, could not have been executed." 123.

This is true enough. But if ever he has been a dresser of a hospital, he has possibly gone into the wards and seen how jovial these nervous patients have been amidst their coterie. They are, frequently, the most chattering, laughing, and sociable *when the physician or surgeon is away*. Being for the most part, young women, they possess the generosity and engaging qualities of youth, and these influence nurses as well as other people. Those who have been behind the scenes will not think there is any thing very *psychical* in all this.

E. "In the cases related, the women were all young, generally in good health, and of strong constitutions: all of them were single, and many of them subject, to violent hysterical fits. In the four most obstinate cases, the functions of the uterus were regular; in others, the bowels were confined, and in four of them obstinately.

Again, at times, some were seized with sudden and apparently alarming symptoms, as repeated hæmoptysis, most violent convulsive fits; others, on the contrary, had perfect paralysis of both sensation and motion; another lay

motionless and speechless for three days : yet these symptoms only suspended, and never altered the treatment." 123.

After all, we believe, that nine times out of ten, the best treatment for these cases is next to no treatment at all. The patient's fancies should be discouraged, her vagaries unheeded, and when anything is done it should be as disagreeable as possible. The nastiest physic, the coldest shower bath, and a civil disregard of the multitudinous complaints obtruded on the physician's attention, will generally effect a considerable diminution of the horrible sufferings paraded before him, in a very reasonable time.

We think, in conclusion, that papers of this kind are very valuable, and ought to be occasionally laid before the profession.

A DESCRIPTION OF A NEW INSTRUMENT FOR CLOSING VESICO-VAGINAL AND RECTO-VAGINAL FISTULÆ, AND FISSURES OF THE SOFT PALATE, INVENTED BY WILLIAM BEAUMONT, Surgeon to the Islington Dispensary.

This instrument is in the form of forceps, one blade of which is a needle curved towards its point, and close to the point is the eye of the needle. The other blade is broader on its opposing surface, less curved, and at its extremity has a hole, through which the needle-point and just the loop of the ligature are carried when the blades are closed. On the back of the broad blade is a spring, which, when pushed forwards, the blades being previously closed, catches the ligature on its point, and holds it at the extremity of the blade.

In using this instrument the operator has only to seize in its points, as he would with a pair of forceps, the border of the fistulous opening ; the blades should then be closed, and the ligature will be carried through one lip of the aperture. The opposite border is then in like manner to be seized, and the blades to be again closed and firmly held so. The spring on the back of the broad blade is now to be pushed forwards, by which the ligature will be caught and held at its point. The blades after this are to be opened and gently withdrawn, leaving a double ligature passed through opposite points of the fistulous aperture. A second or more stitches may in the same manner be made, leaving in each a double ligature, so that the quilled or other suture may be afterwards formed.

Such is the description offered to us by Mr Beaumont. The instrument appears to be a very excellent invention, and deserves an ample trial.

OBSERVATIONS ON THE CONSTITUTION OF THE URINE. By JOHN BOSTOCK, M.D. F.R.S.

That our knowledge of the pathological conditions of the urine is not as considerable as might have been anticipated from the numerous experiments that have been performed upon, depends, in the opinion of Dr. Bostock—first, upon the nature of the fluid, as being the general excretion, by which all the extraneous substances are discharged from the system, which have been, from any cause, formed internally, or have been introduced ab extra ; and secondly, from the great variety of causes, both external and internal,

which affect the state of the urine, through the intervention of the vital actions of the system.

Dr. Bostock proposes a philosophical method of remedying, or attempting to remedy the deficiency. He recommends a series of statical experiments, where the attention should be exclusively directed to a few well defined objects, the experiments to be all made precisely in the same mode, and consequently, admitting of direct comparison with each other. When a sufficient number have been performed, he would arrange them in tables, so that each particular point may be at once brought into view in the different cases under examination, and referred to the circumstances under which they were performed.

"In the prosecution of this plan, the first step was to fix upon some term of comparison, to which the experiments might be referred, and, for this purpose, an individual of sound constitution and regular habits of life was employed as the standard. What may be regarded as the average healthy state of the urine of this individual was first ascertained, and afterwards the nature and amount of the occasional deviations, with the causes to which these deviations appeared to be referable. When this first object has been fully ascertained, we may compare this standard case with other individuals, noting accurately the differences of constitution, habits, &c. and connect these with the varieties in the fluid. Having accomplished these two points, we shall be prepared for examining the urine in the different states of disease; in all cases employing the same processes, and referring the results to the same standard.

It is obvious, that in order to arrive at any very important conclusions, it will be necessary that the experiments should be very numerous and varied, and will almost necessarily require the co-operation of many individuals. On this account, I have endeavoured to render them as simple as possible, so that any one, who is disposed to prosecute the inquiry, can have no difficulty in performing the necessary operations. I have also adopted a distinct and well defined nomenclature, and I have been careful always to employ the terms in precisely the same mode." 26.

Dr. Bostock solicits the co-operation of others. The circumstances which have been selected for experiments are the following—external characters, including colour, odour, clearness, specific gravity, &c.; degree of acidity referred to a fixed standard; presence and amount of albumen; amount of residuum after evaporation; proportion of residuum soluble in alcohol; amount of saline contents; amount of calcareous salts; and spontaneous changes.

Dr. Bostock gives, and we will introduce, a specimen of the tabular form in which he proposes to arrange his results, as well as a synopsis of some experiments that have been performed on the urine that was selected as the standard of comparison.

We recommend the following Table and the observations preceding it, to the attention of all our readers. If we are ever to arrive at satisfactory information in regard to the pathological changes of the urine, it can only be by some such exact and inductive method as that prescribed by Dr. Bostock. But the co-operation of many individuals is necessary in order to obtain results of any consequence. For chemists who are adapted for such investigations have not patients on whom to operate, and physicians or surgeons in extensive practice are not chemists enough to operate well.

1. Designation ; time ; quantity.	State of health ; night ; 3x.	Lumbago ; urgent calls ; night ; 3x.	Symptoms of gout ; pain of feet ; night ; 3x.	Gout gone ; an interval of 2 days ; night ; 3x.	Lumbago ; severe exercise ; profuse perspiration, 2 p.m. 3iv. ; urgent call.	Gouty symptoms, rather severe ; exercise ; more urine than ordinary ; night ; 3x.
2. External characters ; clearness ; colour ; odour.	Bright, clear, citron, urinous.	Transparent, light colour ; faint odour.	Slightly opaque ; yellow ; odour natural.	Rather brown ; strong odour ; bright and clear.	Clear, bright, light coloured	Muddy, deep colour, inclining to brown ; odour strong and unpleasant.
3. Specific gravity.	1014	10114	10066	1015	1007	1018.
4. Degree of acidity.	6°	4°	4°	4°, after 8 days	3°	6° ; after 9 days
5. Amount of solid contents per cent.	5.05	4.46	2.12	6.3	2.35	5.65
6. Proportion of solid contents soluble in alcohol.	2.6 of 5.05	2.6 of 4.46	.....	4.86 of 6.3	1.1 of 2.35	4.5 of 5.65
7. Effect of heat.	None.	Moderate precipitate.	None.	None, or rather brighter.	None.	None.
8. Effect of corrosive sublimate.	Opacity ; when heated, dense flakes ; 2.1 gr. per 3.	Precipitate ; when heated, light flakes ; 1.8 gr. per 3.	Precipitate ; when heated, dense flakes ; 1.35 gr. per 3.	When heated, considerable brown precipitate ; 3.1 gr. per 3.	When heated, light flakes ; 8 gr. per 3.	Perfectly opaque ; when boiled, considerable precipitate ; 1.8 gr. per 3.
9. Amount of precipitate by ammonia.	.5 gr. per 3.	.8 gr. per 3.	.2 gr. per 3.	1.9 gr. per 3.	.2 gr. per 3.	.8 gr. per 3.
10. Amount of precipitate by oxal. ammon.	.3 gr. per 3.	.35 gr. per 3.	.05 gr. per 3.	.45 gr. per 3.	.05 gr. per 3.	.3 gr. per 3.
11. Spontaneous changes.	In 2 days a light cloud ; in 6 days less acid ; somewhat opaque and turbid.	Gradually became opaque, and deposited a white crust ; less acid in 6 days.	In 2 days considered opaque ; in 4 days considerable deposit ; became alkaline.	In 2 days quite opaque, considerable deposit of light brown sediment, became much more acid.	In 4 days slightly opaque ; white sediment ; less acid.	In 4 days a considerable quantity of pink and white sediment subsided, amounting to 1.5 ; the fluid, when filtered, bright and clear.

XI. REPORT OF TWENTY CASES OF MALIGNANT CHOLERA THAT OCCURRED IN THE SEAMAN'S HOSPITALSHIP DREADNOUGHT, BETWEEN THE 8TH AND 28TH OF OCTOBER, 1837. By GEORGE BUDD, M.D. F.R.S. Physician, and GEORGE BUSK, Esq. Surgeon to the Dreadnought.

If there be any medical men who still believe in the contagiousness of cholera, who still deem its propagation regulated by the same laws as govern the spread of the most contagious maladies, we recommend this paper of Dr. Budd and Mr. Busk to their attention. It is eminently calculated to disabuse the mind of extreme opinions—to shew the difficulty of pronouncing on the mode in which cholera is diffused—and to exhibit the unphilosophical character of the attempt to subject it to any laws but those which observation and induction shall prove to belong to itself.

Her Majesty's ship Dreadnought is a three decker, converted into a hospital for seamen in the port of London, and moored off Greenwich.

The person in whom the disease first shewed itself was A. J. Bernet, aged 18, who was admitted on the 29th of September, the day of his arrival from Dantzic, on account of a lacerated wound of the scap. On the third of October he became feverish, and on the following day, erysipelas appeared about the wound; it continued to spread until the 8th, when it occupied the whole of the hairy scalp. He was confined to his bed, and was on low diet. In the night of the 8th, he was seized with cholera, of which he died, at eight P.M., on the 11th.

The second person attacked was Michael Wisdell, 25, a strong muscular man, who was admitted on the 5th of October, 14 days after his arrival from Quebec, on account of venereal sores and bubo. His treatment had been local, his general health was good on the 9th, and he was on ordinary diet. The attack commenced at 3, A.M., on the 10th. He was discharged well on the 11th.

The 3rd and 4th cases occurred in the nights of the 10th and 13th. The fifth case was that of James Thomas, 21, a strong, florid, healthy looking man, who was admitted on the 2d of October, ten days after his arrival from Dantzic, with chancres and bubo. His treatment was local, and he was on ordinary diet. General health unimpaired up to the 14th of October; in the evening of that day, the disease commenced with diarrhoea and occasional vomiting. He died at half-past 11, P.M. on the 15th.

The 6th case was that of George Abbs, aged 18, in port of London from Richebucto, since the 22d of August. Admitted on the 16th of September, with periostitis and impetiginous eruption. Ordinary diet. He was nearly well on the 14th of October, and his general health good. About 4, A.M. on the 15th, was seized with vomiting and purging. At 1, P.M. of the 17th he died.

On the whole 20 cases occurred, and of these 12 proved fatal. Several of these cases are related in detail, to prove that the disease was of the genuine malignant character. That fact is completely established, and we need not trouble our readers with the particulars of familiar symptoms. But a few circumstances, of a less ordinary character, may be mentioned.

A. "In the 7th case, the evacuations, after having consisted, during several hours, of the whitish or gruelly fluid, said to be characteristic of the disease, as-

sumed a peculiar character ; although still profuse, they became brown or blackish, from the suspension in the colourless liquid of brown or black flocculi, sufficiently numerous to impart their colour to the whole mass. When poured on a filter, a colourless fluid transuded, and the brown or black flocculi remained on the paper.

In the 8th case, the dejections, continuing in other respects characteristic, were observed to become brownish at a later period of the disease ; they consisted of a thick red fluid.

Evacuations of a similar character were noticed in cases 6 and 13. In all, they appeared after a prolonged continuance of the rice-water discharges, and seemed to owe their colour to the elimination, through the intestines, of the red particles of the blood.*

b. A patient with diabetes mellitus was attacked with cholera. The urine, which, before the attack of cholera, was highly saccharine and enormous in quantity, was as completely suppressed as in the others. This man remained in the ship a fortnight after his recovery from cholera ; at the end of this time, the inordinate secretion of urine had not returned.

c. The 4th and 16th cases were interesting, as shewing the influence of cholera on rheumatic affections. The subject of the 4th case was labouring under rheumatic fever of a severe form. On the 13th he was totally unable to move his legs ; both knees were much swelled, presenting an evident sense of fluctuation, and were protected by a cradle. At one, P. M., on the 14th, 13 hours from the attack of cholera, it was noted that he was in a state of jactitation, and moved his legs freely ; that the swelling of the right knee had quite subsided, and that of the left diminished. On the 16th, the swelling of both knees quite subsided, the pain in them ceased, and no traces of the rheumatic affection left. The knee-joints were examined after death, and found to contain no fluid, but small shreds of white false membrane adherent to the synovial surface. The subject of the 16th case was admitted on the 19th October, on account of a rheumatic affection of the joints, which had continued for ten weeks, during the last four of which he had been unable to walk, and had, in consequence, been confined to his hammock. At the time of his admission, was unable to walk, to extend his legs, or to clench his fist ; complained of pain in the limbs, worse at night ; there was tenderness, principally confined to the joints. In the night of the 21st, was attacked with cholera. On the 23d could move his legs freely, with scarcely any pain. On the 4th of November, was walking about the wards, presenting very slight traces of his rheumatic affection.

Mortality. It has been observed that there were 20 cases, and that 12 of these were fatal. But there was this variation in the mortality of the 10 persons first attacked, 8 died, while of the remaining 10 cases, 4 only proved fatal. As our authors observe, this circumstance, so far as it goes, is confirmatory of an opinion sanctioned by previous experience, that epidemics are milder and less fatal towards their conclusion ; especially, as this variation in the mortality cannot be ascribed to any difference in the treatment

* "Evacuations presenting the same appearance have been noticed by Dr. Graves, of Dublin, who, in a lecture recently published in the Medical Gazette, ascribed their colour to the acetate of lead which he administered to his patients."

adopted, or in the previous condition of the patients. This fact explains many of the marvellous accounts of successful treatment in malignant cholera. It was often overlooked by many, and kept out of sight by some. The results of treatment at the Dreadnought are confessed by the reporters to have been unsatisfactory. Yet, probably they were as favourable as, under similar circumstances, they usually are.

"The treatment, in most of the cases, consisted in a bleeding at the commencement, when practicable; in the administration of large and frequently repeated doses of calomel: and, during the cold stage, in attempts to restore the temperature of the surface and alleviate the cramps, by means of frictions, hot-air baths, &c. The general result is unsatisfactory, and is rendered still more so by an inspection of the table, which discloses the humiliating fact, that one half of the recoveries took place in cases comparatively mild." 160.

The general pathological facts are stated. But it is not necessary to go through them in detail, as, unfortunately, little decisive is communicated. We shall merely allude to one or two more striking particulars.

Eleven cadaveric examinations were made.

A. The condition of the duodenum was not noted in three cases. In every case in which it was examined, solitary glands were very conspicuous, giving the membrane more or less of a granular aspect: these were in all cases more numerous near the pylorus, and in none extending into the jejunum.

B. "The glands of Peyer were remarkably developed in all the cases, and the most so generally in those that proved fatal rapidly, or during the stage of collapse. They were of the same colour as the surrounding membrane, but in two cases, in which this colour was red, the tint of the patches was observed to be deeper. When pale, they were in all cases dotted with black points. The glands of Brunner were observed, in every case, in the lower portion of the ileum, as small elevated beads, of the same colour as the membrane. These, as well as the glands of Peyer, were the most developed in the cases that proved rapidly fatal, and in all these sufficiently so to give a sensation of roughness to the finger passed over the membrane." 163.

C. The mucous membrane of the large intestine was, in most cases, pale throughout; observed to be reddened from vascularity in three of the protracted cases only. This redness was confined to the first portion of the intestine in two; general in one, but more intense in patches, on the surface of which were streaks of effused blood.

D. Conspicuous follicles were observed in the large intestine in all the cases, with one exception. They occurred, as flat, slightly elevated circles, about a line in diameter, with a central black speck and, in every case diminished in number, and were less conspicuous as they receded from the cæcum.

E. "The condition of the lungs varied as the patients died more or less remotely from the attack. They were found healthy, or simply congested, in four of five cases that proved fatal within thirty-six hours; while of six cases, in which the patients lived at least forty-five hours after the attack, four presented pneumonia. In one of these, fatal at the end of forty-five hours, the pneumonia was very partial, interlobular, and confined to the lower lobe of the right lung; in two, fatal at the end of 96 and 138 hours respectively, the lower lobes of both lungs were found in a state of red hepatisation. In all these cases, the pneumonia was latent; there were no symptoms indicating its presence, and, while the patients lived, we had no suspicion of its existence. We were not aware at the time these patients were treated, that the same observation had been made

by Mr. Jackson, in his Report of Cholera in Paris, in 1832. By him, pneumonia was found to exist in one half of the cases that proved fatal after reaction, and in all these, it was latent. This is unquestionably, as Mr. Jackson remarks, the most important fact, with reference to practice, that dissection has as yet disclosed, and shows us the necessity of investigating by auscultation the condition of the lungs in all cases in which reaction has been established.

With the exception of old adhesions, there was no affection of the pleura in any case." 166.

On the whole, these inspections confirm what others have already told us, *that*—in the early stage of cholera, the only organic changes visible in the solids are rather the effects of the irritation of the digestive canal, than the cause of it; and, *that*—in the secondary stage, the lesions are such as occur in fever, howsoever induced.

It should be stated, because the fact is valuable both as a basis for reasoning and for practice, that, besides these cases of decided cholera, three cases occurred in the medical ward of violent vomiting and purging, which continued some hours and then ceased, without having assumed any characteristic appearance, or without being attended by any considerable collapse. A great number of other patients become affected with diarrhœa, during the same period. The intestinal canal, say our authors, was carefully examined in every person who died in the ship during the prevalence of cholera, and in several who owed their death to various diseases, and who, during life, had manifested no symptoms of cholera, an unusual development of the intestinal glands was noticed.

Causes of the Disease.—This part of the subject is treated with caution, candour, and judgement. It is so long since we have bored our readers with cholera that we may be excused for entering a little on it now, when so tempting an opportunity occurs, for looking at it in petto.

A. The disease, observe the Reporters, cannot be attributed *solely* to any general atmospheric condition, for the following reasons.

"1st. All the cases occurred in persons previously in the ship, in a population of about 200, while not a single case was admitted from the ships in the river, in a population fifty times as great, sending nearly all their sick to the Dreadnought.

2d. Not a case occurred on board the Marine Society's ship, the *Iphigenia*, moored at the stern of the Dreadnought, and consequently subject to the same general atmospheric influences. The population of the *Iphigenia* is 107, of whom 100 are boys, whose average age is about 15, all healthy subjects. When sufficiently ill to require constant attendance, they are sent to the Dreadnought. This immunity may be partly owing to age, especially as it was observed, when the disease prevailed in 1832, that children were attacked less frequently than adults. This cannot, however, be the sole cause, as the subject of the ninth case was only 18, little above the average age of the boys of the *Iphigenia*. It is worthy of notice that during the epidemic in 1832, when cases of cholera occurred in almost all the vessels in the river, the *Iphigenia* enjoyed the same immunity. We can only account for this from the favourable hygienic conditions of youth, good food, and clothing, regular exercise, free ventilation, and complete separation of the sick.

3d. No case, that we can learn, has occurred in Greenwich Hospital, subject to nearly the same general atmospheric influences, in a population of 2,700 pensioners, between the ages of 50 and 80, besides officers and servants. The same cause of exemption does not hold here, as the disease was observed, in former epidemics, to be both more frequent and more fatal in old persons." 169.

So far as reasoning goes, these facts do seem to militate strongly against the efficient agency of any general atmospheric condition. We naturally inquire whether the immediate cause of the epidemic can be detected among the circumstances peculiar to the Dreadnought.

B. Infection from Foreign Ports.

"If the disease was brought by any of those who experienced it, it was most probably by Bernet, in whom it first shewed itself. He left Dantzic on the 8th of September, and no case of cholera occurred in the vessel in which he sailed; so that, on this supposition, the disease, in him, must have had a period of incubation of thirty days, a circumstance very improbable if we consider that the second and third cases occurred in the two following nights; that the five persons seized on the 21st and 22d had come from the four quarters of the globe, and consequently could not have brought the disease, and at the time of their attack had been in the ship from two to seven days only; and that the whole duration of the visitation was only nineteen days.

The only other person of those affected by the disease, who can be supposed to have introduced it, is Thomas, the fifth attacked. He also came from Dantzic, but he arrived in port seven days before Bernet, and had been in the hospital twelve days at the time of his attack.

It may be supposed possible for the disease to have been brought by a person who did not himself experience it. This is rendered less probable by the measures that are always taken with respect to the clothes of the patients. These, as soon as the patients have reached the beds allotted to them, are taken by the nurses and delivered to the boatswain, who keeps them in large lockers appropriated to this purpose under the fore-castle, and returns them to the patients on their discharge.

The following is, however, the evidence on this head. From the 1st of September to the 12th of October, were admitted 334 patients. Of these, 158 came from English and Irish ports, 98 from ports beyond Europe, and 78 from European, including Mediterranean ports. We have carefully examined all the latter, and have included in the following table the names of the most suspicious persons,—the port from which they last sailed,—the number of days since their arrival in this country, and their diseases.

Date of Admission.	Names.	Port sailed from.	How long in port before admission.	Disease.
			Days,	
Sept. 26..	J. Stokes..	Hamburgh..	1 . . .	Venereal.
— 27..	J. Reis....	Memel	3 . . .	Orchitis.
Oct. 4..	J. Aiken..	Hamburgh..	1 . . .	Fever.
— 7...	J. Archer.	Rotterdam..	3 . . .	Bubo.
—	J. Grigg..	Dantzic....	8 . . .	Fever.
— 9..	W. Bryan.	Hamburgh..	3 . . .	Gonorrhœa.

In the latter end of August and the early part of September, cholera was prevalent at Berlin; and, by enquiries made through the mercantile house to which the ship that brought Bernet was consigned, we have learned that some cases occurred about the same time at Dantzic; but they were too few in number to excite attention, and the Prussian consul in London received no information respecting them." 171.

c. Infection from one Person to another in the Ship.

The Reporters observe that the following circumstances afford strong arguments against this mode of propagation.

1. None of the nurses or medical men were attacked; the latter lived on board, and were constantly employed in attending these patients, and in making the examinations after death, about each of which a considerable time was spent, and which were conducted in the lowest part of the ship, in a small cabin in which all the bodies were deposited.

2. The disease was not propagated from the Dreadnought. During its prevalence there, patients were almost daily discharged, who immediately entered other ships in the river, but did not in a single instance communicate the disease to their crews.

3. With reference to the ship herself, it appears that, on the 12th of October, there were 60 patients in the upper deck, the one appropriated to surgical cases; 54 in the middle, or medical deck; and 58 in the orlop deck, in which are placed patients that require the least attention.

1 case occurred in the convalescent or spar deck.

3 in the upper deck.

8 in the lower or middle deck.

7 in the orlop or lowest.

The remaining case was that of the boatswain, whose cabin is under the fore-castle.

The disease then, remark the Reporters, although the first case occurred on the upper deck, prevailed most in the middle and orlop decks.

The first case occurred in the upper, the second in the orlop, or lowest deck, and the third in the middle deck; and only three cases occurred in the upper deck, in which the disease first shewed itself, and these in the nights of the 8th, 15th, and 16th.

All the patients, with the exception of one, the date of whose attack was not well marked, were seized in the night, reckoning as such the time from 5 P.M. to 7 A.M. In this interval the attacks seemed pretty evenly distributed, equal numbers (6, 6) happening before and after midnight; the date of the others some time in the night not specified.

"Giving the above definition of the night, the cases were distributed as follows:

1 in the night of the 8th.

1 - - - - - 9th.

1 - - - - - 10th.

1 - - - - - 13th.

2 - - - - - 14th.

5 - - - - - 15th.

1 - - - - - 16th.

1 - - - - - 17th.

3 - - - - - 21st.

2 - - - - - 22d.

1 - - - - - 23d.

1 - - - - - 27th.

} The precise time of attack of one of these not specified.

Since the night of the 27th, no fresh cases have occurred.

Thus it appears that there were two active periods of the disease, the nights of the 14th and 15th, and those of the 21st and 22d. In these nights nearly

two-thirds of the cases happened. In the first of these periods, five out of seven cases occurred in the orlop deck; in the second, all occurred in the middle deck.

The preceding facts are not very favourable to the supposition that the disease was brought from abroad, or propagated by contagion in the ship. The influence on which it depended seemed to act with an intensity variable, but generally greater in the lower decks; and, in almost all cases, its effects were first manifested during the night." 174.

It is impossible not to perceive that these circumstances all tell against any consistent theory of infection. If we believe that the disease was introduced from abroad, we are led into some striking difficulties. First, a person contracts the infection in a place where the disease is so inconsiderable that official persons have not been informed of its existence. Secondly, this person is not shewn to have been in communication in any way with those who had it. Thirdly, this same person contracting the infection in a manner not proven, carries it about with him for many days or weeks, communicating it to none in the same ship or the same birth. Fourthly, being carried to another ship, he suddenly conveys it to one or to many about him, in a manner which, if contagious, is very contagious, and a pestilence is all at once excited. Fifthly, this contagious disease, brought by one individual from another country, conveyed by him to others in a manner so frightful, stops short as suddenly as it was excited, and when every thing is favourable to its propagation, is not propagated, but having travelled from Hamburg to the Dreadnought by one individual, cannot be carried from the Dreadnought to the neighbouring shore or ships by hundreds. These are only some of the difficulties that hang upon the theory of infection or contagion. When they are removed many more remain to be disposed of, before that theory can assume a satisfactory aspect.

In order to account, if possible, for the greater prevalence of the disease in the lower decks, the Reporters have examined and state the circumstances connected with ventilation, crowding of the patients, the condition of the hold, predisposing causes, previous disease, previous condition as to force, previous medical constitution of the ship. We shall mention the main circumstances.

a. The lowest deck is worst ventilated, but the ventilation had been as good as usual, prior to the appearance of the disease.

b. There had been no unusual crowding, though this is always greater than it should be.

c. The disease did not attack the debilitated in particular, but, of those attacked, the debilitated in particular sank under it.

d. It appears that in the tenth of August four cases of cholera occurred, and that two proved fatal. These two had the characters of the *malignant* cholera.

e. "In all former visitations, cholera prevailed in London as well as in the river; in the one that forms the subject of this paper, it existed in an almost isolated manner, in the Dreadnought. About the same time, there are said to have been five or six cases at Limehouse, and we have been informed by Dr. Sims that a few cases occurred in the St. Mary-le-bone Infirmary; but we cannot learn that the disease existed in any other part of the Metropolis. It is singular that when cholera first shewed itself in London in 1832, within a few days of its appearance in the river and at Limehouse, and before other parts of London were infected, some cases occurred in Mary-le-bone, the part of the

metropolis most removed from, and maintaining the least intercourse with, the former places." 179.

We shall conclude with the recapitulation of the Reporters. It comprises all the important circumstances, and is a fair expression of the facts diffused through the Report.

"1st. The disease, which recently prevailed in the Dreadnought, was identical with cholera, as it appeared in London in 1832; and although it occurred in an almost isolated manner, and had no power of spreading, the individual cases were as severe as in former and more extensive epidemics.

2d. Cholera may affect persons labouring under various diseases, acute and chronic, and may attack the same person twice or more; circumstances in which it seems to differ from typhus, which rarely occurs in complication, or more than once in the same individual.

3d. The evacuations in cholera, which are ordinarily composed chiefly of the serous portion of the blood, occasionally contain, when the cold stage is protracted, the red particles.

4th. During the prevalence of cholera, diarrhœas, attended in some cases with vomiting, were frequent in the Dreadnought, and probably resulted from the cause that produced cholera.

5th. The recoveries took place chiefly in robust subjects, and in cases comparatively mild; but debility, although rendering the disease more fatal, did not seem to predispose to its attacks.

6th. The dissections in these cases confirm the important observation of Mr. Jackson, with respect to the frequency of pneumonia, and the latent form in which it exists, in cases that prove fatal after reaction.

7th. As no case occurred on board the Iphigenia, moored at the stern of the Dreadnought, or in Greenwich Hospital, or in other vessels in the river, the disease cannot be attributed solely to any general atmospheric influences; but no obvious local cause could be assigned for it either in the crowding or ventilation of the Dreadnought, the diet of the patients, the condition of the hold, or the previous medical constitution of the ship.

8th. The shortness of the interval between the occurrence of the 1st case and that of the 2nd and 3rd; the circumstance that persons, recently arrived from various and distant countries, were attacked within a few days after their admission into the Dreadnought: but, especially, the short duration of the epidemics, are unfavourable to the supposition that the disease admits of a long period of incubation. The last circumstance, the short duration of the epidemic, is, we conceive, of great force, as it shews that of all persons attacked during the epidemic, after the first, not one presented a long period of incubation.

9th. The circumstance that none of the nurses or medical attendants of the Dreadnought were attacked; that the disease was not propagated from the ship, although patients were almost daily discharged, who immediately entered other vessels in the river; the order in which the cases occurred, the 1st, in the upper deck, in the night of the 8th, the 2d, in the lowest deck, in the night of the 9th, the 3rd, in the middle deck, in the night of the 10th, and the disappearance of the disease at the end of three weeks, although no measures of seclusion, with respect to these patients, were taken, militate against the idea of its contagious nature.

10th. We can scarcely infer that the disease was brought from abroad, without admitting it to be contagious, and that it had, in the person who brought it, a period of incubation of, at least, 30 days, which is extremely improbable if we consider that this, at any rate, is a circumstance of very rare occurrence, and that only a few cases happened at Dantzic, the port from which this person last sailed.

11th. The history of the disease in Europe, in 1837, presents an epitome of

that in 1832; its gradual advance towards this country probably depended on the same or similar influences in both cases." 182.

It must be admitted that this Report, able as it unquestionably is, throws no new light on the exciting cause or causes of cholera. Like all previous impartial papers, all previous unbiassed inquiries, it rather tends to militate against any exclusive theory than to support it, and to shew us how little we really know of the mode of production and of propagation of this remarkable disease.

Here we pause. The remaining articles in this volume of Transactions are chiefly of a pathological character. We shall groupe them together, and bring them before our readers in our next number.

The volume of the Provincial Transactions before us consists of four divisions—Medical Topography—Essays and Cases—Reports of Infirmeries and Dispensaries—and a Report on the Influenza. The following are the titles of the papers under these several heads. 1. On the Medical Topography of Exeter and the neighbourhood, being a sketch of the Geology, Climate, Natural Productions, and Statistics of that District. By Thomas Shapter, M.D.—2. On the Medical Topography and Statistics of Cheltenham. By D. W. Nash, Esq.—3. A Cursory Analysis of the Works of Galen, so far as they relate to Anatomy and Physiology. By J. Kidd, M.D.—4. On the Treatment of Hypertrophy of the Heart, and Chronic or Sub-acute Inflammation of the Pericardium, especially in reference to the beneficial use of small doses of mercury in those affections. By Thomas Salter, Esq., F.R.S.—5. Two Cases of Gangrene of the Lungs. By William England, M.D.—6. A case of partial Ectopia Cordis and Umbilical Hernia. By John O'Bryen, M.D. (Illustrated with drawings.)—7. Extirpation of the Eye, on account of a tumour developed within the Optic Sheath. By R. Middlemore, Esq. (With Plate.)—8. A Report of the Out-Patients attended by F. Ryland, Esq., at the Birmingham Town Infirmary, between the 25th Dec. 1835, and 26th Dec. 1836.—9. A Report of the Out-Cases attended by the late George Parsons, Esq., at the Birmingham Infirmary, from January the 1st, to December the 31st, 1836. By Samuel Berry, Esq.—10. A Report of Cases treated at the Birmingham Dispensary, from January 1st, 1837, to January 1st, 1838. By T. Ogier Ward, M.D.—11. A Report of the Cases attended during the year 1837. By R. Middlemore, Esq., Surgeon to the Birmingham Eye Infirmary.—12. Statistical Researches of the In-Patients of the Medical Wards in the Geneva Hospital, for the years 1834, 5, 6, to which are added some Documents relative to the influence of the seasons on the development of certain diseases amongst the poorer classes of Geneva and its environs. By H. C. Lombard, M.D.—13. Report upon the Influenza or Epidemic Catarrh of the Winter of 1836-7. By Robert J. N. Streeten, M.D.: with Observations upon the Meteorological Phenomena. By W. Addison, Esq., F.L.S.

The topographical articles are very good, but from their length and their details they are necessarily not calculated for analysis. They reflect great credit on the industry and the general acquirements of their authors, Dr. Shapter and Mr. Nash.

The first article in the part devoted to essays and cases, a sketch of the anatomical and physiological opinions of Galen, is very well worth reading. It is a pity that such sketches are not more numerous. Amidst the distractions of modern practice and the innumerable facts of modern science, we are too apt to become ignorant of what the early masters did, and to rob them of honours justly their due.

I. ON THE TREATMENT OF HYPERTROPHY OF THE HEART AND CHRONIC OR SUB-ACUTE INFLAMMATION OF THE PERICARDIUM, ESPECIALLY IN REFERENCE TO THE BENEFICIAL USE OF SMALL DOSES OF MERCURY IN THOSE AFFECTIONS. By THOMAS SALTER, Esq. F.L.S., &c. Poole, Dorsetshire.

After making some judicious observations on organic affections of the heart, and on their consequences, and on the necessity of attending to the alterations produced in the respiratory apparatus and liver, Mr. Salter goes on to state, that:—

“The general symptoms of disease of the heart that indicate the use of mercury, are few: the chief are, dyspnoea or breathlessness, brought on by exercise, particularly walking up an ascent; difficulty of breathing, occasioned by stooping, and an unnatural or irregular state of the pulse, not otherwise to be explained. The local signs shewing the necessity for its employment are more numerous, and are such as prove the existence of hypertrophy with or without dilatation, diseases of the valves, inflammation, &c. Of these the principal are, an impulse produced by the heart's systole greater than natural; an irregular and tumultuous action of the organ, with a strong ventricular contraction and loud sound; the different modifications of the bellows sound, especially, if combined with permanent violent pulsations in the neck, either arterial or venous; and dullness of the chest on percussion, beyond the usual cardiac region: this last symptom, however, is not always present, even when the heart is considerably enlarged. An emphysematous state of those portions of the left lung naturally covering the heart, coexisting, will occasion the præcordia to be more than commonly sonorous.” 341.

Mr. Salter remarks that pericarditis is generally divided by authors into the “acute” and “chronic.” But Mr. Salter is inclined to believe that there is another and a milder form of the disease which has not received sufficient attention.

“This modification of pericarditis, I conceive, consists in congestion and an increased vascularity of the tissues, but to an extent not greater than would constitute what is understood by hyperæmia. It is mostly unattended with effusion, or sensible thickening of the membranes; it may, I apprehend, often be a primary affection, but is, I think, mostly secondary, accompanying hypertrophy, and chronic diseases of the heart, and that depraved state of nutrition which leads to a thickening of the valves and to the deposition of earthy matter beneath the endocardium in the vicinity of the cardiac orifices.” 343.

Mr. Salter illustrates his views on this subject by the hyperæmia or congestion which occurs in the sclerotica of those who labour under a rheumatic diathesis. Even this minor degree of inflammation existing in the heart will, he continues, as is plainly demonstrated to us in the eye, if uncontrolled, lead to the most serious consequences, and may at any time quickly pass into a morbid action of the vessels of a more active kind, and surprise

us with a result we did not anticipate. The inflamed state of the pericardium here referred to, gives rise to the tenderness between the ribs in the cardiac region, and beneath the ensiform cartilage, observed in chronic cardiac affections.

The treatment recommended by Mr. Salter is applicable to all varieties of chronic diseases of the heart, with the exception of the simple dilatation of its cavities. His plan is as follows.

If there is plethora, absolute or relative, some blood is to be abstracted.

This being done, or not being necessary, Mr. S. proceeds to make the mouth slightly sore with mercury. He usually employs the blue-pill.

There being very commonly a congestive state of the pulmonary mucous membrane, general bleeding is mostly required for it. This should be resorted to with caution:

"Leeches applied at the upper part of the sternum and beneath the clavicles are sometimes advantageous, but as there is some danger that the necessary sponging and poulticing may give cold, I have generally preferred blisters and sinapisms, from the use of which great good is often experienced. The blood drawn from the arm is frequently found buffed, and cupped. The employment of vascular depletion and counter-irritants ought not to interrupt the use of mercury, so essential for removing the morbid action of the capillary vessels of the heart and pericardium, without which the relief from blood-letting will too frequently be imperfect and transitory. Depletion alleviates the congestion and oppression of the chest, and gives time for the establishment of mercurial action, and it also directly contributes to remove a disease, (bronchitis,) which of itself is often highly dangerous. Indeed, I am convinced from attentive observation, that death is frequently hastened, if not produced, either by failing to notice, or not actively treating, the morbid condition of the bronchial mucous membrane existing in cardiac diseases. Cold, we know, acts as a stimulus to the pulmonary mucous membrane, and the disordered state of this tissue in heart disease, increases its susceptibility to be impressed by atmospherical vicissitudes. Persons not aware of this fact, by exposing themselves in the winter season, often put their lives in imminent danger. For the same reason, epidemic influenza becomes highly hazardous to individuals suffering from disease of the heart. So decidedly am I impressed with the correctness of these views, that I consider it much more important to this description of patients to be placed in the winter under the influence of a regulated warm temperature, than to the truly consumptive." 347.

Mr. Salter intends to apply this depletory treatment to cases in which the bronchitis wears an acute character.

When dropsy attends cardiac disease, and is not itself considerable, the alternative mercurial plan answers very well for its removal. But when it is of more severity, the elaterium is necessary. Mr. S. remarks that the safest test which he has observed, of the propriety of using it, is a firmness of the anasarca swelling. If the limbs be very soft, doughy, and transparent, something more mild should be tried. When the elaterium has carried off the dropsical effusion, which it will frequently and readily do, the use of mercury ought immediately to be commenced, and cautiously persevered in until the gums are slightly sore. This moderate degree of mercurial influence should be kept up until the breathing is decidedly relieved, and for some short time afterwards, and should again be had recourse to on any recurrence of the difficulty of breathing. In this manner, by the use of elaterium, mercury, and, in the Winter, confinement to the house in rooms whose tem-

perature should never be below 50 F., the complaint may be kept at bay, and the fatal event warded off for a very long period.

Mr. Salter relates six cases in illustration and confirmation of his views. They are very satisfactory, and Mr. Salter's hints deserve attention.

II. TWO CASES OF GANGRENE OF THE LUNGS By WILLIAM ENGLAND, M.D., &c. &c.

These cases are sufficiently rare to render them matters of curiosity, and sufficiently common to prevent that curiosity from being idle.

Case 1.—J. M., æt. 45, a chimney-sweeper, of a strong physical constitution had latterly been accustomed to get drunk frequently with beer, and had suffered under great anxiety.

On the 31st of August, 1835, he was seized with acute pain in the chest, and became a patient of the Dispensary. He was immediately bled from the arm, but the blood not flowing freely, only a small quantity was obtained. A blister was applied to the chest after the venesection, and he was directed to take a mixture of tartarized antimony. From this treatment he is said to have derived much benefit: the pain of the chest, however, did not entirely subside. Cough came on two or three days after venesection. His inability to sit up obliged him to take to his bed.

On the 16th, September, Dr. England saw the patient; he had then the following symptoms:—

Much muscular debility, incessant cough, copious expectoration of whitish muco-purulent matter, slight pain of chest, pulse quick, pretty firm, respiration somewhat more frequent than natural, skin warm and moist, little appetite, bowels regular.

Percussion.—The anterior and posterior regions of the left side of the chest sounded somewhat dull; the same regions of the right side were tolerably resonant.

Auscultation by the Stethoscope.—Mucous rattle over the whole of the right side of the chest; the vesicular respiration, however, distinctly audible. Respiration bronchial, anteriorly and posteriorly on the left side. On coughing, a cavernous resonance heard near the inferior angle of the left scapula; mucous rattle throughout the left lung louder than in the right; bronchophony audible near the centre of the left clavicle.

We need not mention the prescriptions. The report, on the 20th, states:—several pints of greenish muco-purulent matter, of a gangrenous odour, expectorated within the last twenty-four hours: the factor from his breath and expectoration renders his chamber almost intolerable; muscular debility increased. Quinine was now exhibited. From the 22d to the 23rd, the expectoration amounted to *nine pints*, and was of the same character. Prostration of strength increased, slight diarrhœa came on, and on the 24th of October the patient died. He never suffered from hæmoptysis.

Dissection.—The thorax only could be examined. General appearance of the body much emaciated; thorax narrow in its transverse diameter; costal and pulmonary pleuræ on both sides adherent. *Right Lung.*—Surface of a cineritious colour; crepitates throughout the whole; gorged with san-

guineous fluid without any fætid odour. *Left Lung.*—Upper surface of a bluish green colour; lower lobe posteriorly of a gangrenous green aspect, resembling the plate in the third Livraison of Cruveilhier's Anatomie Pathologique; primary bronchus much dilated, and, together with the secondary ramifications, full of muco-purulent matter; the capillary vessels of the bronchial mucous membrane in a state of hyperæmia; miliary tubercles in the substance of the superior lobe; parenchyma of the lungs of a greenish colour, and gorged with sanguineo-purulent fluid; cavity capable of containing a small walnut in the substance of the inferior lobe near its posterior surface. This cavity was lined with an adventitious membrane of firm texture, and apparently of recent formation; the bronchus leading to the cavity was not dilated; all the bronchial glands much enlarged, and of a very dark red colour. *Heart.*—In a normal condition, excepting a slight osseous deposition on the semi-lunar valves of the aorta.

Dr. England met with another case in his Dispensary practice, but as no cadaveric inspection could be obtained, he gives a very brief sketch of it.

Case 2.—A bricklayer, he says, of strong, indeed, robust form, of temperate habits, was attacked during the Summer of 1831, with continued fever, complicated with a very slight bronchitis. His cough, which was scarcely perceptible, soon disappeared, and convalescence was perfect in less than a fortnight. Ten days afterwards when he was thinking of returning to his usual employment, he was suddenly seized with extreme prostration of strength and a violent fit of coughing, during which he expectorated two or three pints of yellowish green matter, of an intense fætidity. The peculiar character of the sputa remained the same, and the prostration of strength increased with a rapidity unusually rare in an individual of such apparently strong constitution. Every effort, by means of tonics and nutritious diet, to restore the vital powers, was unsuccessful, and the man died in about three weeks from the commencement of these symptoms. During the previous attack of fever, the respiratory murmur throughout the lungs was daily heard, and the mucous rattle was not more developed than is usually found in the slight intercurrent bronchial irritation complicating the majority of cases of continued fever.

About two years ago we were attending a lady who had all the symptoms of phthisis in an early stage. She was suddenly attacked, while in this condition, with violent inflammation of the left lung. When this had existed for 36 hours, and did not appear to be much mitigated by the remedies that were employed, a violent fit of coughing ended in the discharge of nearly a pint of matter, of a horribly offensive odour. The physical signs of a cavity were now distinct. The sputa had the gangrenous odour for some time, and then finally lost it. The symptoms of phthisis went steadily on, and about a year after this occurrence the lady died. There were several vomicæ, but none of large size, in the left lung, and tubercular infiltration of its structure. In this case, a vomica had no doubt become distended with matter, which had partially putrified in it.

III. A CASE OF PARTIAL ECTOPIA CORDIS, AND UMBILICAL HERNIA. By JOHN O'BRYEN, M.D. Bristol.

Dr. O'Bryen believes that the history of medicine does not furnish a parallel case to this—one in which the isolated action of a great part of the left ventricle is presented to the observation of three senses—vision, tact, and hearing.

Case. Female child of Charles M'Carthy, aged 14 days.

The mother states that on Christmas eve last she slipped in the street and fell against the curb stone; the ensiform cartilage and neighbouring parts coming into contact with the stone, deprived her of breath and the power of utterance, the effects of which she felt for some weeks, but did not then know she was pregnant, the third month not having been completed. She was confined July 6th, of a female child, after a natural labour.

State of the Infant fourteen days after birth. She is healthy, large, and was born at full term; colour of the face and skin perfectly natural; she takes the breast well, and sleeps quietly, with the exception of an occasional start. The secretions and excretions are normal. The head is raised from the chest at each systole of the heart, which occurs 140 times per minute; inspirations 45 per minute whilst the little patient is asleep; the dyspnœa is much lessened when she lies on her back with her head on a level with her body. The shape and outward form of the thorax is perfect, with the exception of the greater part, if not the whole, of the ensiform cartilage, which is wanting. The functions of the cerebro-spinal system apparently normal.

At the anterior and superior part of the abdomen, between where the umbilicus and the lower end of the sternum ought to be, exists a tumor, soft, oval, unequal, and semi-transparent, three inches and a half in length, two and a quarter in breadth, and one and a half (at a medium) above the level of the parietes. The inferior three quarters of this tumor are evidently occupied by the floating viscera, which have escaped for want of the support of the linea alba, and of the oblique, the transverse and recti muscles, the superior portion only of the last appearing to be wanting. The skin covering this inferior portion of the tumor is reddish and shining, being evidently of late formation; on the left side of it is an ulceration about the size of a half-crown, where the cord was inserted. Around the base of the tumor, particularly the superior portion, where the integuments of the body meet those of the hernia, there is a raphe, which, with the appearance of the skin, shows that the abdominal cavity remained open to a late period of utero-gestation.

The superior quarter of the tumor has a triangular shape, bounded laterally by the cartilages of the false ribs, and inferiorly by what appears to be the transverse colon. In this triangle, which is exactly in the median line, is seen through the diaphanous skin, a body pulsating, in shape and appearance not unlike a small heart, with its point directed outwards, thus forming nearly a right angle with the sternum, its apex being pushed upwards by

the distended colon; but when the intestines are not so distended, the angle becomes a very obtuse one.

The blood-vessels ramifying on this body were easily recognised through the delicate and almost transparent skin, which became injected and of a dusky tinge whenever the infant forced down or retained her breath.

Dr. O'Brien proceeds—

“Three distinct motions or actions were evident, I believe, to almost every person who examined the tumour, and they were not a few, and amongst them Dr. Charles Williams of London.

First.—A lessening in size or a contracting of its whole body one hundred and forty times per minute, during which a dimple was formed on its side, varying in depth according as it emptied itself of the whole or only a part of its contents; the depth was always increased when the infant took a deep inspiration and was very quiet, as in sleep. This contracting or systole commenced suddenly, and diminished considerably the size of the body; after repeated observation, and the most attentive examination, this first motion appeared to be synchronous with the pulse in the carotid, and with the first or ventricular sound.

Second movement,—or that of dilatation, during which its body became tense, and appeared shortened, while, at the same time, it was much enlarged by as active a force as that of contraction, (it was dilated even when, by pressure, we attempted to prevent it;) whilst in the fingers, it gave me, as well as many of my medical brethren a sensation as if it were first forcibly enlarged, and that then a fluid rushed in, with one wave, communicating the feeling of a thrill. The dilatation was synchronous with the second or loud sound, but it appeared to continue after it.

During the systole, the third or downward movement of the whole tumour was observed to take place, (it certainly commenced rather before than after the systole,) evidently distinct from that caused by irregular periods, by the contraction of the diaphragm, as well as by deep inspiration. To make this motion more evident, I pushed the pulsating body into the thorax, where it required a considerable force to retain it, as during each systole it was forced down against my fingers, pushing them forwards, and this with a more equal power each time when the pulse was regular and full, than when it beat one strong, followed by two or three small pulsations; the same was observed to take place in the tumour, and I think this is easily explained, by supposing that the ventricle emptied itself during the first, and only partially during the three succeeding pulsations.

From the loud noise, or that caused by the reaction of the arteries on the blood expanding the semilunar valve, to the duller or that called ventricular, the space of time appeared to be about one half of the whole time of the heart's action, if any thing, rather more, as observed by the eye, but the movements were so quick that I shall not attempt to advance anything positively as to the exact quantity of time occupied by each motion separately; the period of rest was all but imperceptible, indeed it appeared inseparable from the dilating, but more especially the filling of the ventricles, or that period when the thrill was felt.

Taking the tumour in the fingers of one hand, and passing those of the other under and behind it, they came into contact with a large round body within the thorax, (the skin was so lax, it permitted this to be done with facility,) whose pulsations were synchronous with those of the tumour. This same body was also felt in front, and might have been mistaken for the pulmonary artery.

Handling the tumour, or touching the body within the thorax, did not appear to give rise to the slightest sensation on the part of the little patient, in this agreeing with the case of the celebrated Harvey. There was evidently no hernia

of the abdominal viscera *into the thorax*, and *vice versa*: nor, on the other hand, was there any hernia of the thoracic viscera into the abdomen.

The chest sounded well, being clear over that spot where the impulse is generally felt, but I was prevented by circumstances, viz. the age, the dyspnoea, &c., from deriving more accurate information from this source of diagnosis. The respiration was natural for an infant, and evident in the precordial region, showing that a portion of lung occupied that region. The sounds of the heart were clear and distinct, in the precordia rather anteriorly; but they were evident over the whole thorax, accompanied by *no impulse*, or any abnormal noise." 379.

The vermicular motion of the small intestines was very distinct in the lower portion of the abdominal tumor.

The pulsating body increased in size, convulsions occurred, the respirations grew as quick as 53 in the minute, a general mucous rattle was established, the child once vomited matter tinged with florid blood, and when three months old she died.

Dissection two days after Death. There was no injection of the venous system. The limbs were much emaciated.

An incision was made through the skin from the top of the sternum to the pubes; while dissecting back the skin, not a trace of a muscular fibre could be discovered over the superior part of the tumor, neither the recti, the oblique or transversalis muscles, nor the linea alba. The transverse colon appeared the instant the skin was divided, forming the base of the triangle described in the history of the case; the cartilages of the ribs were perfect; the sternum was perhaps a little shorter than natural, and the ensiform cartilage was entirely wanting. The liver was very large even for an infant three months old, extending quite across the abdomen; with this exception, all below the diaphragm was normal. This muscle was itself normal, with the exception of the band or bundle of muscular fibres which attaches it to the ensiform cartilage. Its usual attachment to the posterior face of the cartilages of the false ribs continued, as is natural, but the ensiform cartilage being absent, it passed from one cartilage to the opposite one without its proper support in this place. The consequence of this was, that a triangular opening, formed laterally by the cartilages, and inferiorly by the fallen and floating portion of the diaphragm, remained, close to that spot where the pericardium adheres to that muscle, and to the anterior mediastinum in front.

The sternum being raised, the heart was seen in the pericardium nearly in its natural position, rather towards the right, its base occupying the left side of the thorax, and overlapped by the lung. The right ventricle was hypertrophied, being double the thickness of the left, with some dilatation, and its apex was directed to the right side. The left was of its ordinary thickness, lying from left to right, and prolonged for about one inch and three quarters, into a sac formed of the pericardium, which with the sack protruded through the triangle above described, the prolonged portion forming, when in place, an obtuse angle with the remainder of the ventricle. The apex of the right ventricle prevented the left coming further out. On opening the pericardium it was found to be attached by old adhesions to the protruded portion of the ventricle. The heart was normal in construction. The blood was fluid. The substance of the lung was healthy. The

hypertrophy of the right ventricle explained the congestion of the bronchial mucous membrane.

The following are the conclusions drawn by Dr. O'Bryen from this interesting case. They will be observed to bear chiefly on the physiology of the heart's action.

"1st. It seems probable that the prolongation of the left ventricle was caused in consequence of the pre-existence of the triangular opening, as the action of the heart continually tended to force it against and through the aperture, and that the adhesions retained it there; perhaps the first link in the chain of causation might have been the arrest of development of the ensiform cartilage, and of all the muscular *fibres* usually attached to it."

"2ndly, That in the production of the impulse, no account has hitherto been taken of the downward motion spoken of above (I am aware a sliding motion has been described), produced, as I believe it to be, by two causes. The first of these is the sudden rush of blood from the distended auricle into the dilated ventricle sufficient to fill it, which must produce some degree of downward impulse to the heart; but if M. Bouillaud's opinion of the injecting powers of the auricles be correct, then it must be of some amount. The second is the recoil or rebounding force of the heart when the ventricles have driven a column of blood into the aorta and pulmonary artery. Unite these two forces, and I believe they tend to increase, if not partly to produce, the impulse.

Let us see if pathology does not bear out this view. When the ventriculo-arterial orifices are obstructed, or when there is hypertrophy, either eccentric or concentric, the impulse is increased in proportion to the obstruction and to the power of the muscle, the rebound being equal to the force exerted by the ventricles to expel the column of blood. Does not this solve the question of increased impulse; and that, too, in proportion to the disease? The received opinion of the present day is, that the impulse is caused simply by the systole straightening the anterior convexity of the ventricles, and thus bringing the apex into forcible contact with the ribs. It seems to me, if to this be added the above two forces, the impulse, or rather its cause, would be better explained. Perhaps also the *direction* in which these forces act might still more *perfectly* explain it. 383.

We believe, having made and witnessed experiments upon living animals, that Dr. O'Bryen has gone some little way round for an explanation of a simple fact. The base of the heart being fixed, (which it is,) and the direction of the ventricular fibres being what it is, the apex of the ventricle must and does rise in its systole, and will of course rise with more power in the ratio of that systole's force. The reaction of the blood in the aorta, &c. is pretty upon paper.

"3rdly, That dilatation of the ventricles is as active a force as the contraction. Dr. Copeland supported this opinion many years since, and still, I believe, adheres to it.

"4thly, That the dilatation is the cause of the gush of blood from the auricles, not its effect; that acting, as in this case it appeared to do, upon the principle of the common pump, it tended to carry on and explain the circulation in the large veins and through their valves, to extend the effect of the same principle to their minute divisions. Hamberger and Dr. Copeland fully concur in the first part of the above conclusion, and M. Bouillaud's opinion nearly agrees with this inference, only that he attributes an injecting power to the auricles." 384.

The reasons and the observations that exist against an active ventricular

diastole are so forcible, that Dr. O'Bryen's fact will not lend much weight to that generally discarded supposition.

"5thly. That no sound was produced by the contraction of that portion of the left ventricle, isolated as it was from the remainder of the heart, the sounds appearing to proceed from the neighbourhood of the valves. I merely here state what were the ideas excited in me and in many of my medical brethren who saw the little patient, after very frequent and most attentive examination. This conclusion is, I know, in contradiction to that come to by the Committee of the British Association, who decided that the first sound is caused by the muscular attraction of the ventricles. If this were the case, is it not probable that this isolated portion of the ventricles would have caused some sound? When taken in the fingers, and even held alternately under the stethoscope, and to the ear, a transmitted sound was heard, but no direct one, except that caused by the friction of the body against the instrument." 384.

Dr. O'Bryen properly insists upon these being "ideas." We shall not go into an argument upon them. We would simply direct attention to Dr. O'Bryen's admission, and to the inconclusive nature of the case on which they have been grafted.

But Dr. O'Bryen deserves the thanks of his brethren for having put the case so fully upon record.

IV. EXTIRPATION OF THE EYE, ON ACCOUNT OF A TUMOR DEVELOPED WITHIN THE OPTIC SHEATH. By R. MIDDLEMORE, Esq. Surgeon to the Birmingham Eye Infirmary.

Case. H. aged 3, a healthy-looking child, was taken to Mr. Middlemore, in consequence of a slight strabismus, presumed loss of sight and fulness of the left eye, which had been first noticed by his parents two months ago, without ostensible cause.

The cornea is slightly nebulous, the eye a little more protruded than its fellow, and it is evident that the power of sight is entirely lost.

In the course of three months, the eye-ball became considerably protruded and much inflamed, and the whole cornea assumed a decidedly nebulous appearance. The iris was pushed towards the cornea, but was not distinctly inflamed. The pupil was slightly muddy, but there was no deep-seated shining opacity at its fundus, nor did the eye itself appear to be much enlarged. A degree of fulness at the upper and outer side of the eye-ball was perceptible on close examination, when the palpebræ were widely separated. The child evidently suffered pain, and an operation offered the only chance of benefit.

Operation.—March 18, 1837. "Having lengthened the intertarsal slit by an incision towards the temple, discharged the humours of the eye, passed a strong ligature through the sclerotica a little behind the margin of the cornea on each side, and, by its agency, drawn the eye forwards and upwards, I made a pretty deep semicircular incision through the conjunctiva, and somewhat beneath the globe, from the inner to the outer canthus, and united the extremities of this incision by a similar one made at the upper part of the eye-ball. The tumour was of considerable size and extended, as I imagine, through the optic foramen, so that it was not perhaps wholly removed. However, with the curved scissors, I succeeded in clearing the orbit. The soft and slippery character of the tumour,

and the depth and situation of that small portion which, I think, remained, rendered it somewhat difficult and dangerous to continue my attempts to extirpate every portion in the situation of the optic foramen. On the completion of the operation, the little patient was extremely exhausted from loss of blood, and required the use of pretty active stimulants for at least an hour afterwards. The orbit was now carefully sponged, a thin fold of linen dipped in cold water was lightly bound upon the eye-lids, and the patient put to bed." 387.

Dissection of the Contents of the Orbit. The eye-ball appeared healthy, except that its humours were slightly turbid, the cornea somewhat opaque, and its back part near the optic nerve slightly indented by the pressure of the tumor. The optic sheath was a little thickened and much dilated by the large tumor, and especially so near the optic foramen. A portion of cellular matter, apparently the cellular membrane formerly connecting together the fibrillæ of the optic nerve, was observed between the tumor and the optic sheath; this was of a yellowish colour, most abundant near the cribriform portion of the sclerotic coat, and condensed into one or more layers in those situations where, from the greater size of the tumor, &c., it would be exposed to the greatest degree of pressure. The tumor, covered by this cellular tissue, and by the sheath of the optic nerve, was of considerable size; its greatest bulk being situated near, but not close to, the optic foramen. It was of a yellowish colour, and of a texture resembling the mucilaginous nasal polypus, only rather fibrous. By immersion in spirit, it assumed a firm, fibrous, and whitish appearance.

The subsequent progress of the case was tolerably satisfactory. The wound went on well, and the child soon recovered from the operation. On the day on which Mr. Middlemore communicated the case, Feb. 28, 1838, he again saw and examined the patient. He reports:—"the orbit appears free from disease; the eye-lids are quite healthy, and are slightly drawn inwards by the absence of the eye-ball. The *right* eye has a rotatory motion, but vision is perfect. The intellect is unimpaired; but the power of the right (the left eye, it will be remembered, was removed) hand and arm is diminished, and the child drags the right foot slightly, very slightly, along the ground when walking or running."

This completes the original papers in the present volume of the Provincial Transactions, with the exception of some Dispensary Reports. Those we shall notice in their proper place.*

* They will be found in the Clinical Review.

TRANSACTIONS OF THE MEDICAL AND PHYSICAL SOCIETY OF
CALCUTTA. Vol. VIII. Part I.

(Concluded.)

We have already laid before our readers a more or less complete account of several of the papers in this volume. We shall now present a sketch of the contents of such of the remainder as are adapted for our purpose. We feel great pleasure in bearing testimony to the zeal and ability of our fellow labourers in the East. The march of medical science is as evident in India as in Europe.

I. CASE OF RANULA IN WHICH THE LEFT SUBMAXILLARY GLAND WAS EXTIRPATED; WITH REMARKS. By *J. G. Malcolmson*, Esq. Assistant Surgeon, Madras Establishment.

In the beginning of 1828, a sickly-looking Hindoo boy, nine years* of age, was brought to Chicacole from an unhealthy hill district, on account of a swelling which extended from one ear to the other, over the angles of the jaw and to the sternum, near which it was more distended than above, and slightly pendulous, so as to admit of being raised from the skin covering the superior extremity of the bone; it was quite soft, and evidently contained a fluid. The disease commenced about a year before, below the jaw and a little to the left of the chin, and had gradually increased downwards, and up to the ears. The patient stated, that for some time before the appearance of the tumor, there had been a discharge of pus half an inch behind, and lateral of the mouth of the duct of the left submaxillary gland, where there was a depressed cicatrix, about a line in diameter, on the formation of which the swelling commenced. Near the cicatrix, there was a carious tooth. A very slight discharge of saliva from the left submaxillary duct could still be observed. There was no swelling in the mouth; but a hardness could be felt below the jaw, a little to the left side, and there were several scars in the centre of the swelling, caused by repeated applications of the actual cautery. Mr. Malcolmson concluded that the submaxillary ducts or gland having been inflamed, probably from the irritation of the diseased tooth, the passage of the saliva was interrupted, and making its way into the loose cellular substance of the throat, had gradually distended the integuments.

A puncture was made into the most prominent part of the swelling, and twenty ounces of a glairy transparent fluid, of a light brown tinge were discharged, as well as a hard substance resulting from the inspissation of the liquid. The opening was then left free, and the discharge carefully pressed out every morning. Twice, however, the wound closed, and a new puncture was necessary. On the last occasion, a tent was left in the wound, some inflammation followed, and a good deal of matter was discharged along with the glairy fluid; the skin contracted a little, but it was evident, that little could be expected from this plan.

"Having procured a very fine probe, I found it passed into the duct of the

gland, and some saliva flowed from it; this diminished my confidence in the opinion I had formed of the disease, but convinced me, that it could not be cured by endeavoring to restore the communication by the mouth, and removing the swelling by puncture and pressure. I therefore resolved to remove a portion of the skin constituting the front of the sac, ascertain if the fluid came from the gland, and take such farther measures as might be necessary.

On the 30th, I placed him on a table, and punctured the tumor three inches above the sternum; and after the fluid was evacuated, cut away an oval portion of the skin (of the size of $2\frac{1}{2}$ by 2 inches,) which was much thickened from the cicatrices of the cauteries and punctures. The throat now exhibited an extraordinary appearance: from behind the ears, over the angles of the jaw, and down to the chest, it seemed as if carefully dissected; the blue veins and parotid glands shining through the cellular membrane. I in vain looked for any opening, from which the fluid might come; the possibility of its being derived from the left parotid, or of its being an encysted tumour, whose sac had become condensed with the surrounding parts, at the same time occurred to my mind; in either of which cases nothing more remained than to close up the wound, and to try what could be done by pressure. The cellular membrane in the mesial line had become condensed, and formed the hardness felt in the neck; it was therefore removed.

Having examined with attention a soft round body of the size and colour of a small lymphatic gland, partly embedded in the left submaxillary gland, I observed a very minute puncture, as if from the point of a needle, and on gentle pressure, a glairy fluid flowed from it. I immediately proceeded to separate the gland from the surrounding parts, which at first was not difficult; but on getting into the hollow of the jaw, it was more firmly attached, and the space was so narrow, that it was difficult to use the knife. A ligature was passed through the gland, by which it was drawn out; but it was still difficult to tie the vessels which bled. One very considerable vessel, (the lower maxillary,) was cut, the bleeding from which was stopt by pressure made on the carotid; but it could not be secured, until Lieut. H., (who in the absence of another surgeon assisted,) put his thumb into the mouth, and pushed the gland downwards which greatly assisted the rest of the operation. Then by passing a curved needle through the parts several times, and cutting between the gland and the ligature, the whole was removed, except a small process, which passed between the anterior belly of the digastric and the mylo-hyoideus muscles, and probably joined the sublingual gland; to this the actual cautery was applied." 18.

The edges of the wound were brought together by ligature and plaster, and the greater part of it healed readily. But an abscess formed at the lower part of the left side of his neck—the cicatrix in the mouth opened and discharged matter—the abscess in the neck itself was opened—the latter wound closed, and the opening in the mouth closed afterwards—and in less than a month from the time of performing the operation he was quite well. The cicatrix in his throat was very small, and did not disfigure him; the opening into the mouth had healed, and a minute portion of saliva flowed from the duct of the submaxillary gland, on the left side, probably from the sub-lingual gland.

Mr. Malcolmson has related this case, principally for the purpose of shewing that, in extreme cases, extirpation of the sub-maxillary gland may not only be practicable but beneficial. It is pretty clear that the whole gland was not extirpated, yet the result appears to have been as favourable as could be desired.

It has been frequently observed, that although ranula is believed to be

dilatation of the duct of the sub-maxillary gland, anatomical proof of the fact is defective. Mr. Malcolmson observes:—

"In my patient, the origin of the tumor was clearly seen; the small blue gland-like body, from a very minute opening in which, the saliva passed into the cellular substance of the throat, was a small cyst, into which some branches of the duct of the gland were seen to run. I endeavoured to leave it unbroken, so as to have an opportunity of demonstrating this fact; but its coats being very thin, it was broken during the removal of the gland. Dupuytren refers to Jean Murimcks, as having thought he had demonstrated, that it depended on an accumulation of saliva in the ducts, which open under the tongue. That this is the origin of the tumors which appear in the mouth is pretty certain, and the peculiarity of the present case is explained, by the fact of one or more of the small ducts having been obliterated in a situation distant from the mouth. So small a tube, as that which was closed up in this patient, could not admit of distention to the enormous size the swelling attained; accordingly, a very minute opening, (not larger than would be caused by the finest needle-point,) was formed, and the gradual distention of the integuments followed in consequence." 22.

II. A CASE OF ULCERATED STRICTURE OF THE ŒSOPHAGUS, COMMUNICATING WITH THE TRACHEA. By A. K. LINDESAY, Esq.

Sergeant J. C., æt. 55, was admitted into hospital in June, having fallen some weeks before, when intoxicated, and felt as if his chest had struck on a sharp hard body. From the time of the fall, he has had slight wandering pain in upper part of the right side of the thorax, and has gradually lost the power of swallowing solid food. No disease of the heart, lungs, or ribs, could be detected. The pain was speedily removed by leeches, blisters, and attention to the general health; but the difficult deglutition remained unmitigated; the smallest tube of a stomach-pump could be passed into the stomach, giving a feeling of continued resistance for an inch or so, about opposite to the top of the sternum; the orifice of the tube on withdrawal was always filled with thick puriform mucus, streaked with blood. He was benefited by passing the tube at intervals for some little time after he left the hospital, but about the end of August he returned, stating that he felt increasing difficulty in taking food: he had lived for some time on bread reduced to a pulp in milk, which he was obliged to swallow very slowly. Two attempts on different days were unsuccessful with the tube formerly introduced; on the third day, Aug. 30, an elastic catheter was made to pass the stricture after using considerable force; the end of the catheter, when the point was fairly engaged in the thickened part, was just within the teeth; satisfied with this for the day, the stiletto of a small catheter was fitted with a bit of sponge, and slightly curved, laterally, so that on introducing it, the sponge protruded at the eye of the instrument, and next day, Sept. 1, a weak solution of nitrate of silver was applied by the sponge, and a little thrown into the catheter, while withdrawing it through the structure; no bad effect followed this attempt, at medication.

The plan was persevered with for upwards of a fortnight, but, at the end of that time, no instrument could be passed, it appearing to hitch on a fold. On the 2d of October, a catheter could again be got to pass, and (to attempt

dilatation of the stricture from below, as recommended by Fletcher of Gloster), a piece of gut was fitted on a catheter, introduced flaccid, and by blowing made as large as a walnut: after inflation, it was easily withdrawn. It was now noticed, that there were difficulties to the passing of an instrument, before reaching the former seat of stricture.

After this, he gradually got worse, and became troubled with a cough, hawking up glairy pus and blood.

Nov. 26.—“Yesterday, about 11 a.m., during a violent fit of coughing, he threw up a mass of coagulated blood, (as he described it, though it was probably a slough), and since that time, has not been able to swallow a drop of liquid. I introduced a catheter, which passed *into the thickened parts, not beyond*; injected a little water to relieve thirst, if possible, but it was *blown back*, with much coughing and spitting of bloody mucus: so that now there is evidently a communication between the trachea and œsophagus.” 43.

Every attempt to swallow caused violent coughing. Nutritive enemata, &c. were ordered,

On the 27th, an attempt to pass the tube was unsuccessful. On the 28th, the tube, after much difficulty passed through, twice. After this, the tube was passed frequently, sometimes with more, sometimes with less difficulty. Vomiting became more and more frequent and distressing, the symptoms of gastritis supervened, and on the 14th of December the patient died.

Dissection.—Extreme emaciation. Marks of recent inflammation of pleuræ and lungs.

Mucous membrane of the stomach inflamed—the same with the colon as low as the middle of the sigmoid flexure.

The pharynx was vascular, and covered with green mucus. There were found no marks of disease in the larynx or front of the trachea: at its sides, and extending around the œsophagus to the adjacent portion of the arch, and descending aorta, there was considerable increase of substance; the aorta was quite healthy, adhering by its outer coat to the thickened œsophagus; on cutting out a portion of the trachea in front, an opening was observed communicating with the œsophagus, irregularly circular, about the area of a shilling, and situated about half way between the cricoid cartilage and the bifurcation; the mucous membrane of the trachea, for some distance above and below the aperture, was vascular, and covered with purulent mucus: tracing the œsophagus from the cardiac extremity, by slitting it, the lining membrane was found vascular, but not decidedly diseased until just above the bifurcation of the trachea, where it was found thickened and ulcerated in its whole circumference: the ulcer occupied fully four inches of the canal; it was covered by thick pus, and was of a very irregular surface, there being several pale lumpy projections, and a few specks which felt rough and cartilaginous; the canal above the aperture was much more capacious than below, but even downward, it easily admitted the little finger to pass.

The case is interesting, because it shews the inutility, we would say, the injuriousness, of persevering with instruments in cases of malignant or ulcerated disease of the œsophagus. We do not refer to this case in particular, but to the general fact. The present case appears to have been treated with great skill and judgment.

III. CASE OF EXTENSIVE LIVER ABSCESS, SUCCESSFULLY OPENED. By ARCHIBALD COLQUHOUN, Assistant Surgeon, 12th. N. I.

B. M'Grath had been in hospital under different medical officers from the 30th of January till the 23d of May, 1835, when Mr. Colquhoun took charge of the artillery. He was then in a state of great debility, with pulse very small and quick, pain in the right side, increased on pressure, or on taking a full inspiration. Tongue and skin natural, bowels generally confined. Leeches were frequently applied to the side, after which a caustic blister. Purgatives were daily given, and ij. gr. of calomel every night in hopes of inducing ptyalism. But no sensible effect of this kind was induced. About the 6th of May, fulness and prominence of the side first became distinct, after which it increased daily, under the application of large poultices and dry cupping-glasses. On the 15th, Mr. Colquhoun performed the operation in the presence of Mr. Savers, now member of the Medical Board, and Mr. Jackson, Surgeon of the 8th Calvary.

"An incision about two inches long, immediately under the edge of the ribs, was made into the prominent part of the swelling, down to the peritoneum, on cutting through which with an abscess lancet, a copious discharge of purulent matter of a reddish yellow colour, took place: in the course of half an hour seven pints were discharged. The incision was dressed with simple ointment; he expressed immediate relief from the pain, and could then lie down comfortably, having been obliged to sleep in a sitting posture for some time before. At 9, p. m. I was suddenly called to see him, and found him cold, pulseless, and nearly dead. Owing to hæmorrhage from some of the vessels of the abdominal parietes, upwards of two pounds of coagulated blood was lying under him. Pressure with a pledget of ol. terebinth. on lint immediately stopped the bleeding." 157

The bleeding did not recur—pus was discharged from the wound in some quantities, up to the 23d inst., from which time he continued to improve slowly till about the beginning of June, when a troublesome diarrhœa came on. But this was checked, he returned to his duty in August, and, in the cold season, Mr. C. saw him marching in perfect health and as stout as ever, through Allahabad.

IV. DISLOCATION OF THE OS HUMERI REDUCED AFTER A MONTH AND FOUR DAYS.

The subject of the accident was a native, 30 years of age. The head of the os humeri was distinctly felt in the axilla; the limb had acquired some degree of mobility, and the arm could be nearly approximated to the side. Several attempts having failed, the pulleys at last effected the reduction.

V. OPERATION PERFORMED IN PERSIA, FOR THE REMOVAL OF OPACITY OF THE CORNEA. By S. M. GRIFFITHS, Esq.

"In this part of Persia (Tehran) an operation is practised for the cure of opacity of the cornea, which may be worthy of the attention of the members of

the medical and physical society of Calcutta, as it is said to be frequently successful in improving the transparency of the cornea, if not always capable of restoring perfect vision. The object of this operation seems to be, to completely cut off the vascular communication, by excision of a circular portion of the conjunctiva at a small distance from the margin of the cornea, which is accomplished by fixing eight small hooks into the conjunctiva, about a line from the union of the cornea with the sclerotica, quite round the cornea; the operator then raises that part of the conjunctiva by pulling these hooks towards him, and with a pair of scissors, he cuts off the portion thus raised, and completely insulates the conjunctiva covering the cornea, the consequence of which is the gradual absorption of the opacity of the part affected, and the cornea recovers its transparency. The after-treatment is very simple, consisting merely in the introduction of a small quantity of antimony between the lids; in fact, the result of the operation is confidently expected to be successful without any other application."—*Appendix, xx.*

DES MALADIES MENTALES CONSIDERÉES SOUS LES RAPPORTS MEDICAL, HYGIENIQUE, ET MEDICO-LE'GAL. Par *E. Esquirol*, Médecin en Chef de la Maison Royale des Aliénés de Charenton, &c. &c. &c. Deux Tomes, accompagnés de 27 Planches Gravées. Chez J. B. Baillière, Paris et Londres, 1838.

ON MENTAL DISORDERS, CONSIDERED IN A MEDICAL, HYGIENIC, AND MEDICO-LEGAL POINT OF VIEW. By *E. Esquirol*, &c. &c. &c. Two Volumes, 8vo.

THE great space which we have devoted to the analysis of the Medico-Chirurgical Transactions and to the Life of Jenner in the present number, prevents our doing more than introduce these volumes to the notice of our readers. In our next number we shall render our account of them complete.

It would be absurd descanting, at this time of day, on the importance of an acquaintance with the nature and treatment of insanity. It would be equally absurd to dwell upon the difficulty of the study. Unfortunately that difficulty is too often illustrated by pregnant instances in our Courts of Law; and medical witnesses continually break down beneath the keen cross-examination of the subtle advocates. But the cause of their so often cutting a sorry figure is not simply the obscurity inherent in mental disorders—much of it must be laid to an imperfect information with respect to what is positively known of them, and much to that illogical method of reasoning so prevalent with members of our profession. The practice of medicine being essentially a calculation of chances, a mind not fortified by a sound education, is too apt to lose every thing like exactness, and to become entangled in the maze of probabilities. There are few who will not own how much they have been perplexed at times in grappling with this class of maladies, and fewer perhaps who will not peruse with curiosity and interest the experience of a man whose life has been spent in their investigation.

Such a man is *M. Esquirol*. The work before us is the produce of the

observations and reflections of forty years, observations and reflections made upon those unhappy persons, amongst whom he has literally lived. Acquaintance with their habits taught him lessons of humanity, which he was not slow in learning, and M. Esquirol was among the first to denounce and abandon that cruel treatment of lunatics, which rivetted the madness that it found, and made the maniac the beast that it supposed him.

The experience of M. Esquirol has been gleaned at the Salpêtrière, in the Asylum of Charenton, and in a wide field of private practice. His facts and opinions have been partially published at various times, in the *Dictionnaire des Sciences Médicales*, and in the Journals. He has never before collected them together in a corrected and methodical form, and he supposes, not without foundation, that their publication will not be unacceptable. We are sure that it will not.

The first Chapter of the work, intituled—*DE LA FOLIE*,—contains the principal generalizations of our author, the other chapters entering on details. To the first chapter, then, we shall proceed, and present an account of a large portion of its contents.

The mad-house, as M. Esquirol is at the pains of telling us, is a microcosm, where we see, *in petto*, the actors and the parts that appear upon the great stage of the world. Emperors and gods, rebels and subjects, devotees and infidels are on either scene, and if we smile at the madman's follies, it is because our participation in the corresponding follies of the sane, blunts the sense of the ridiculous in *them*. We may readily conceive some higher beings filled with pity and contempt, at the eagerness with which we pursue our fleeting objects of ambition.

But a philosophical glance at madness must not lead to so barren a conclusion. It should teach us to respect the delusions we observe, and to consider that they are founded on data as satisfactory to the insane, as the premises of our most demonstrative truths appear to be to ourselves. To contradict the delusion is, to the madman, what the obstinate contravention of the proposition is to us. The nature of the error ought to be investigated, the character of the lunatic should be considered. One we must encourage—another we must check—this person we engage by kindness—that we subdue by resolution—all we lead by hope. Such discrimination is the leading principle of modern treatment—coercion, chains and straw, were the alpha and omega of the ancient.

I. SYMPTOMS OF INSANITY.

M. Esquirol defines insanity as a cerebral affection, usually chronic, unattended with fever, and characterised by disordered conditions of sensibility, intelligence, or volition. But occasionally insanity runs a rapid course, and febrile symptoms are present.

The sensations of the insane are not in perfect correspondence with external objects. They will not read because the letters are distorted—they do not recognise their friends—are tormented with smells unappreciable by others. A lady, for example, in the last stage of phthisis was thus affected by the odour of charcoal. She imagined that a design was formed

to asphyxiate her. She quitted her apartments, and changed her residence several times in a month. Phthisis destroyed her, retaining this illusion to the last.

These false sensations may effect one sense, often two, more rarely three, occasionally four, and even all. Alterations of hearing and of sight are, on the whole, most frequent. Many insane persons hear voices addressing them, and prompting them to all kinds of acts.

Another characteristic of insanity is the multiplicity of sensations and abundance of ideas, which occur without order, object, or stability. But we witness at other times, and very frequently, the reverse of this: the madman has one dominant idea, from which he cannot be diverted. This is monomania.

The proper associations of sensation and ideas undergo strange interruptions in insanity. The town of Die is commanded by a rock, named the V. A young man conceived the idea that by adding this letter to Die, he would make it Dieu (God), so he venerated all the inhabitants of Die as gods. But this Polytheism, after a time, not suiting him, he concentrated the Godhead in his father, as the most respectable person in the place.

In some insane persons, sensations are imperfect, impressions insufficiently felt, and the memory is faithless. These persons only recollect things long past, and they cannot fix their attention on existing objects.

In some cases, the madman seems no longer able to control his actions. An irresistible impulse forces him to acts that himself condemns. But he struggles against it in vain. The madman, too, as Locke observes, resembles those who reason correctly upon false premises. Thus a man murders his children, but he does so, because he thinks that, if they live, they will be damned.

The passions of madmen are impetuous, more especially in mania and in monomania. Many of the forms of madness are the natural passions carried to excess, and we pass, by gradual transitions, from the state of the most perfect calm to furious mania on the one hand, or to the deepest melancholy on the other.

The insane, although previously irreproachable, frequently commit the most disgraceful acts—indulge in gross obscenity, or perpetrate actual thefts. Their pusillanimity is remarkable. They are timid, suspicious, reserved. This trait is most conspicuous among those of least intelligence. M. Esquirol justly remarks that men of cultivated minds are the most candid and the least distrustful. But although the insane are filled with anxiety for the present moment, they are perfectly regardless of the future. And thus the distinctive mark of high civilization, a provident care for the morrow, would appear to be the very converse of madness. The

Carpe diem—

Nimium ne credula postero,

however poetic, is the madman's motto.

The insane conceive an aversion for those who should be dear to them, and injure or fly from them. This would seem to be a consequence of their suspicions. If an apparent exception to this rule exists—if the madman appears to retain an affection for his relative or friend, he is deaf to his advice, his prayers, in whatever relates to his delusion. M. Esquirol insists upon this moral alienation, as an essential characteristic of the mental. There

may be no apparent incoherence, but if the moral feelings are perverted, this is itself a sign of madness reproaching or returning. The observation is, no doubt, a just one, when rightly understood, and properly weighed. But it is not to be supposed that every rascal is insane in the ordinary acceptance of the term, and can claim the indemnity of madness.

M. Esquirol makes a few observations on the physical states of the insane. But we see nothing in them to detain us. He affirms, in opposition to the popular belief, that there is usually something physically wrong about them.

When the insane are cured, they perfectly remember the sensations, true or false, that they have experienced, their reasonings, their resolves, even in detail. Jean Jacques said that "the state of reflection is unnatural, and the man who meditates a depraved animal." This rhodomontade is exactly the reverse of truth. But reasoning implies effort and attention; and it is the latter which is deficient in the insane. Imbeciles and idiots appear totally incapacitated for it. M. Esquirol has never succeeded in taking a plaister of Paris cast of the head of an imbecile. He never can keep his eyes closed long enough, however desirous he may be of having the cast taken of himself.

M. Esquirol conceives that there are good grounds for the quintuple division of insanity, in reference to its mental characters, into:—

1. Lypomania, (the melancholia of the ancients,) delusion in reference to one object, or to a few objects, with predominance of melancholy sentiments.

2. Monomania, delusion on a single object, or a few, with predominance of excited and of lively sentiments.

3. Mania, delusions of all sorts with excitement.

4. Dementia, where the reasoning faculty goes wrong, because its organs have lost their requisite energy and force.

5. Imbecilitas, in which the intellectual organs have never been capable of reasoning rightly.

Mental alienation may successfully affect these different forms it is true, yet still, while they are preserved, they are distinct, and sufficiently indicative, in M. Esquirol's opinion, of appreciable mental conditions.

It has been a matter of inquiry, to ascertain the respective numbers of those affected with each of the preceding forms of insanity. M. Esquirol is of opinion that monomania is more frequent than mania—dementia, and imbecilitas, especially the latter, more rare; the latter, however, is endemic in some mountainous countries. See, for example, the Cretins of Switzerland.

II. CAUSES OF INSANITY.

We shall not enter on their particular consideration, but we shall merely select a few particulars for notice.

A. *Climate.* Temperate climates, subject to great atmospheric variations, especially to alternations of cold and damp, and vice versa, are those in which insanity is most prevalent. In some countries, insanity is endemic.

B. Season.—Unwonted heat and cold produce insanity. Many of the French soldiers went mad in Spain, and the same thing occurred in the retreat from Russia. But, in the latter case at all events, if not also in the former, moral causes must have operated. From a Table formed and published by our author, of the number of admissions into the Salpêtrière during nine years, it appears:—1, that they were most numerous during the months of May, June, July, and August; 2, that the proportion decreased in September and December, to attain its minimum in February and March.

The seasons exercise an influence on insanity when actually developed. Some persons are depressed or excited during the Summer, and the reverse in the Winter. If insanity breaks out in the Spring or Summer, it has an acute form; if not quickly cured, they are decided in the Winter. The manias and monomanias of Autumn are decided in Spring. Summer is most favourable for the cure of dementia. Cures which take place during the warm season, though the most rare are the most durable. Relapses are most to be apprehended at the season of the year when the attack first happened, and they are most frequent in Spring and Summer. In some instances of intermittent madness, relapses occur regularly at the same seasons, even after intervals of several years.

M. Esquirol examines the question whether the moon exerts any influence on the insane. He cannot satisfy himself that it does so. If some are excited when the moon is at the full, it is, he thinks, on account of her light.

c. Age.—Though infancy is not the age for insanity, save and except idiocy, yet Franck saw, in 1802, in St. Luke's Hospital, a child who has been insane from two years old. M. Esquirol has had the management of insanity in a child of eight years of age, in one of nine, and in one of eleven. On the whole, imbecility is the form which invades infancy: mania and monomania attack youth: lypomania or melancholia middle age: and dementia old age. From data which he slightly specifies, M. Esquirol concludes, that the age most prone to insanity in men, is that between 30 and 40 years—in women, between 50 and 60; and that the period of life least prone to madness is, in both sexes, infancy, youth, and advanced age. The rich are attacked in greater proportion than the poor at the age of 29 to 30.

d. Sex.—In Italy and Greece, women are less liable to insanity than men. In the North of France, more women are mad than men. In England, the equality between the sexes greater. On this, as on several other occasions, M. Esquirol draws a melancholy picture of the moral state and position of women in France, a picture confirmed by the observation of all foreigners, and strikingly illustrated in her drama and her vicious modern novels. Society, in that country, is an anomalous state. The sanction of the Catholic religion has lost its hold upon the mind, and no corresponding one has been developed.

After examining several numerical data, M. Esquirol adds, that, when large numbers become the subject of calculation, the difference between the sexes, in reference to liability to insanity, is less than is commonly supposed—that this difference has a close approximate relation to the relative numbers of the sexes in the population—that the same ratio does not hold in all countries—and that, in France, more women are insane than in England.

Of those affected, a larger proportion of men are cured than women, and the former are less liable to relapses.

E. Temperament.—On this head, we see little to notice. We pass to—

F. Professions and Modes of Life.—Dryden observed, that “great wits to madness nearly are allied.” M. Esquirol combats the position. He contends that persons of a wild and speculative turn of mind, and persons whose thoughts are constantly directed to one object are prone indeed to insanity. But those of the highest intellect have preserved it to a late period of existence. If painters, poets, musicians, &c., have evinced a tendency to madness, it is because their lives are, from circumstances, irregular.

The dominant idea of every age has had its influence in producing or in giving a colour to insanity. Thus at the dawn of Christianity religious melancholia prevailed—the age of chivalry gave birth to erotic melancholia—the wars of the reformation set afloat religious melancholia again—the modern aspirations for liberty and reform have turned many heads in France.

M. Esquirol lays it down as a sort of axiom that the frequency of insanity is always in the ratio of the dependence on social vicissitudes to which their professions expose men. Thus the palace and the bureau are severely visited, and courtiers, merchants, soldiers, suffer much from disease. A sedentary mode of life predisposes to it, and so does the sudden change from an active to an inactive one.

Occupations which expose those who pursue them to the vapor of charcoal, the heat of the sun, the metallic oxydes, &c. seem to give rise to insanity. Drunkenness, excessive venery, and particularly masturbation, do the same. The manners of a people and their morals, exercise a most potent influence. M. Esquirol dwells on the immorality of his country, and deploras its effects in the increase of insanity. The conscription laws, at each period of their operation, produced a sort of burst of insanity in France, either among the conscripts or their relatives. M. Esquirol examines the question, whether the numbers of the insane have materially increased since the revolution? He arrives at no satisfactory conclusion. The apparent numbers have greatly augmented, but that may be in a great degree explained by the multiplication of Asyls, and the greater care with which the patients are treated—inducements to all classes to send their mad relatives or friends.

G. The Passions.—M. Esquirol remarks that the most frequent moral causes of insanity are pride, terror, ambition, reverses of fortune, and domestic grief. The latter is a cause of extensive operation. M. Esquirol alludes to the idea that excessive joy gives rise to madness. He disputes it, and thinks that when “a man’s head is turned with joy,” some other subsidiary cause contributes to occasion the effect. In France, religious enthusiasm has ceased to make men mad—love, become a trade, no longer sends its votaries to the asylum. So, at least, says M. Esquirol, and he deploras the change which has come over his “unhappy country.”

Moral causes are much more powerful in their operation than physical, particularly in the upper classes. Physical causes act more on women than on men, a circumstance which their menses, &c. explain.

H. Physical Causes.—Of these hereditary disposition is most powerful, especially amongst the wealthier portions of the people. It has made fools of many of the great families of France, who almost all intermarry. Insanity seems more transmissible by the mother than the father. Hereditary madness often appears in the parent and the child about the same age. A mother became insane, at the age of twenty-five, after an accouchement. Her daughter went mad at the same age, after confinement also. The children of insane persons frequently display peculiarities, which should forewarn those who are concerned in educating them. Such children should receive the physical and moral training which is calculated to prevent as much as possible all cerebral excitement.

Excitement of the mother, before or during gestation seems to give rise to a disposition to insanity in the offspring. M. Esquirol mentions several instances of this sort

Falls or blows upon the head induce a disposition to mania.

Masturbation is both a prolific cause and an effect of it; continence a very rare one. Menstruation is a fruitful source of mania, especially the first menstruation, and the menstrual period is always attended with an aggravation of the malady. Suppression of the leucorrhœal discharge is a more frequent cause than is supposed. Pregnancy seems occasionally to give rise to insanity, but this is much more frequent after accouchement and during lactation. Dentition, producing convulsions, predisposes to insanity; the suppression of perspiration is a potent cause of it.

Fevers of a bad character leave after them a chronic delirium, which must not be confounded with insanity. But any cerebral affection may lay the foundation of that complaint. The presence of many substances in the primæ viæ, may give rise to it also, and chronic diseases, either by their suppression or metastasis, epilepsy, hysteria, apoplexy, the use of medicines which affect the nervous system, such as mercury, may produce the same effect.

We have run over M. Esquirol's account of the symptoms and the causes of insanity. Its course and treatment may be deferred until our next number, when we shall present an account of some, if not of all the forms which this deplorable infirmity assumes.

DISEASES OF FEMALES.

OUTLINE OF THE PRINCIPAL DISEASES OF FEMALES. Chiefly for the Use of Students. By *Fleetwood Churchill*, M.D. &c. &c. Dublin, 1838. Pp. 402.

THERE is nothing, in the whole history of medicine, more surprising, or more gratifying, than the improvements which have been made in the study of that science, in the metropolis of this country alone, during the last ten years.

Formerly there were no dissuaves from idleness, no encouragements to diligence, no motives to industry, beyond those supplied by the prospect of a couple of examinations, and a fear of rejection by the respective Boards of Examiners. Formerly there was hardly such a thing known or heard of as periodical examinations by the several teachers of their several classes. Here one, and there another—to the infinite annoyance of the majority of their pupils, practised a better method, and made a point of gauging the progressive attainments of the young men attending their lectures, by the institution of occasional examinations. They formed exceptions to the general rule, which consisted in giving lectures, and no more. If the pupils were attentive to those lectures, well; if they were constant attendants, as well as attentive listeners, better still; and if they took notes, at the time, and sat down afterwards to the study of those notes, best of all. They acquired, there can be no doubt, much valuable information. And are now, in the practice of their profession reaping the benefit of their teacher's instructions, and of their own industry. But, until the dreaded hour of trial came, there was no one who either knew or cared whether the student was really profiting by the lectures he attended; or whether those lectures were not entirely thrown away upon him.

The case is widely different now; and instead of class examinations being exceptions, they are the present rule, so far as we are acquainted, in every school in London, and in almost every department of medical education. The advantage accruing from this has been two-fold—by it the attention of the students, for the time being, has been fixed to the subject matters of the daily lectures—their energies roused to make the matters taught them their own.

But not only has the mode of teaching been subjected to improvements.—and the above is not the only improvement which has been introduced, like an after-thought, into the course of medical instruction;—the science of medicine has been made to enlarge her academical boundaries—and branches of knowledge have been included in the more comprehensive curriculum of medical studies, which were previously studied apart, as collateral, but by no means necessary; or were not studied at all.

Two of these branches to which we more particularly refer, are, Obstetrics—and Forensic Medicine. Every candidate for the surgical diploma must now furnish proofs of having studied them. Every one seeking the Apothecaries' Licence, may expect to have his knowledge of them tested, by competent examiners.

We hail the improvements that have been made in the mode of study, as blessings which have come upon our country, and our own especial class of society. We rejoice in the wider extension of professional requirements, because, assenting to the axiom of Lord Bacon, that "knowledge, is power," and further believing, that not money, but professional knowledge is the professional man's best capital we feel persuaded that the day is not far distant when the honours which wait on power, and the respect which is paid to wealth, will descend in refreshing showers upon the medical profession, at present a profession—less honoured, less respected, and worse requited than either of its learned sisters. A profession, where studies the most laborious, only lead to labours the most unprofitable. A profession, the members of which work harder, we speak it advisedly, than any men on the face of the whole earth—and, in England at least, which boasts herself of being in advance of all other countries, are worse paid, in reference to their work, than any. Witness only one instance. The onerous duties which devolve upon parochial medical officers—and the compensation doled out to them with niggard hand, by the respective Boards of Guardians at the instance of three Poor Law Commissioners, who know nothing of the study or practice of medicine, and can know nothing unless a fit of the gout or colic should some day make them rest from their labours, and move the bowels of their compassion to feel—if not for others—for themselves.

To each his sufferings :—all are men
 Condemned alike to groan ;
 The feeling—for another's pain :
 The unfeeling—for his own.

But this is no time for 'casting more than a hurried glance at the past history of our profession. It needs further improvements, and it's motto should be "Forward!"

We have been led to make these observations in considering the subject of female diseases—and we give them with less hesitation to our readers, seeing that, important as is the study of the complaints to which females are subject—and scarcely less difficult than important—there is, at the present moment, a crying defect in the mode of prosecuting it, and a corresponding deficiency of the means at the command of the various teachers, for communicating clinical instruction, in a class of diseases, certainly as numerous as any—and as certainly of equal moment with any—whether we regard the well-being of the patient—or the success of the practitioner.

What is wanted in every school of medicine in the kingdom is an additional ward or two for cases of purely female complaints—where they may be seen by students.*

* Some of the London hospitals have such additions. The Middlesex and Guy's, for example. In the former, there is a ward for cancer patients, another for lying-in-women, and a physician-accoucheur attached to the hospital. In the latter, there is the Petersham Ward—the limited sphere of usefulness of which may be gathered from Dr. Ashwell's statements in the 6th number of the Guy's Hospital Reports. From these it appears, that only 82 cases were received into it, from December 1836 to October 1837. The extent to which that usefulness might be enlarged is evident from the fact that the obstetric out-patients of Guy's Hospital, from October 1836 to October 1837, amounted

Such an arrangement must, sooner or later, be made. The present state of medical science requires it, the future wants of medical students will render it imperative. Where all are rightly emulous to be excellent, which shall take the lead in this matter, it is not for us to predict—that the lead will soon be taken by some one or other of our many medical schools, we are confident. That it cannot be taken too soon, we know—and hope to persuade our readers likewise, by bringing before them in a series of analytical articles, “the Principal Diseases of Females,” shewing their number, their prevalence and their importance.

The valuable work of Dr. Churchill enables us to introduce the subject now, and we hope to continue it more in detail hereafter. The work of Dr. Churchill, however, is not yet complete, its author waiting the approval of the present volume by the public voice of the profession, before publishing another on the Diseases of Women during Gestation, and in Childbed. That the publication of that volume may not be unnecessarily delayed, we hasten to register our vote in his favour; and to give our own readers the benefit of as full an analysis as our limits will admit.

Dr. Churchill divides his subject into two parts. The first, treating of “Diseases of the External Genitals.” The second, of—“Diseases of the Internal Genitals.” Which last is further subdivided into—1st. “Diseases of the Vagina. 2d. “Diseases of the Uterus.” 3d. “Diseases of the Fallopian Tubes.” 4th. “Diseases of the Ovaries.” A very convenient division for the study of those diseases *in books*—but far from the most useful mode of classifying them, for observation at the bed-side.

We like Dr. Good’s better, (Study of Medicine, Vol. IV. ed. first.) He divides his class *Genetica* into three orders, *Cenotica*, or diseases affecting the fluids—*Orgastica*, those affecting the orgasm—and *Carpotica*, or those affecting the impregnation. But this division is likewise faulty and especially so with reference to the principles adopted by its very learned author, in his Nosology generally. And, while it banishes some diseases to other classes, it admits others, which belong to another place.

Dr. Mackintosh, in the eighth part of his work, treats of these diseases under another arrangement, if indeed that can be called arrangement which has scarcely a semblance of it. For example, his seventh chapter, like the first part of Dr. Churchill’s volume, is entitled “Diseases of the Labia, and External Parts in the Female.” The title of the *ninth* chapter is, “Diseases of the Uterus, connected with Inflammatory Action”—of the *tenth*, “Prolapsus of the Uterus—Retroversion of the Uterus—*Polypus of the Vagina and Uterus*”—of the *eleventh*, “Tubercles of the Uterus—Bony Concretions—Hydatids—Aqueous and Flatulent Discharges”—of the *twelfth*, “Fluor Albus and Leucorrhœa”—of the *thirteenth*, “Diseases of Menstruation”—and of the *fourteenth*, “Diseases of the Ovaria.

In Dr. Marshall Hall’s skeleton work—“Principles of the Theory and Practice of Medicine,” there is an attempt at classification of the diseases, not only incidental, but peculiar to females, which simplifies their division very materially, and renders it more natural than either of the others. Dr. Hall arranges them under three classes, Diseases of the Uterus—Ovaria—and Mamæ. And distributes the first class into two orders—the organic and the functional. The following admirable remarks, with a characteristic

anecdote of the great GREGORY, introduces the subject in Dr. Hall's volume, and we cannot do better than cite them in their author's own words:—

"As the kidney, the bladder, the prostate, form a series or system of organs, the diseases of which mutually induce or aggravate each other; so do, in an especial manner, the uterus, the ovaria, the mammæ, &c. It is still an important inquiry how far remedies applied to one part of the series may relieve disordered actions in another. And the bond of connexion which binds these several organs amongst each other, and with the whole system, still affords a subject of deep interest for renewed inquiry. There is no question that the head is frequently affected by the condition of the uterine system. This is seen in nymphomania. On the other hand, phthisis, disposes to conception, and this frequently checks the progress of phthisis. And cancer occurs simultaneously in the mamma and in the uterus. These connections are still more readily traced in the physiology of the uterine system.

Dr. Gregory was consulted, in the town of Ayr, in the case of a lady who had repeatedly miscarried, with dreadful hæmorrhage, in spite of every remedial means, which could be devised by the first medical authorities in Scotland. Dr. Gregory saw the patient on one of these occasions; he prescribed for the hæmorrhagy, and, when this had been arrested, and the patient had sufficiently recovered, he examined the state of the mammæ, found them distended with milk, and directed a lusty infant to be applied, and nursed for nine months. The course of the uterine blood was directed into another channel, the lady became pregnant, the mother of a living child and ultimately of a numerous family, her labours being unattended by hæmorrhage!

"This history," Dr. Hall goes on to remark, "bears the stamp of genius. The fact itself is full of interest, and perhaps of more extensive application than may appear at first sight. May not the disposition to uterine hæmorrhagy, in other instances, be prevented by attention to the due adjustment of the mode and period of lactation?

I have throughout these sketches called the attention to one important principle—that the diseases are not simple—not the affections of single organs—but of *systems*; and I again take the liberty of repeating this remark in connexion with the diseases of the uterine Organs."—Hall, 426-7-8.

Neither adopting one or other of the above attempts at classification, we propose to consider the diseases in question under two heads—1st. ORGANIC DISEASES OF THE UTERUS AND UTERINE SYSTEM; and 2nd, FUNCTIONAL DISORDERS OF THE UTERINE SYSTEM; which will embrace every particular complaint, both before, during, and subsequent to gestation.

The first organic disease of the uterine system in the unimpregnated state to which our attention is called, is, inflammation. The varieties of inflammation to which it is subject are occasioned by the parts in which that disease has its seat. Whether they be the external labia—the vulva—the vagina—the uterus and its appendages or the peritoneal covering of the uterus.

I. PHLEGMONOUS INFLAMMATION OF THE EXTERNAL LABIA PUDENDI.

This result of blows, falls, forcible intercourse, and other injuries of any kind, occurs frequently before, occasionally during, and frequently after pregnancy.

Its presence is known to the patient by increased heat and pain at its

commencement, followed by swelling of the parts and a throbbing sensation, which generally render her incapable of motion, or compel her to remain at rest and quietness, by rendering every movement distressing. The practitioner discovers on examination, enlargement of one or both labia—a circumscribed hardness—intolerance of pressure—and a blush, more or less vivid, of inflammatory redness; and distinguishing it from tumefaction and from œdema of the labia, and from hernia, pronounces a favorable prognosis, and has only to adopt a simple treatment to ensure a successful result. *Rest*—leeches over the affected part—succeeded by hot fomentations and cataplasms—the use of the bidet night and morning—and mild aperients will sometimes dissipate the inflammation, where it has been attended to in time; but the looseness of texture hastens the suppurative process, and then the position must be altered from the recumbent to the upright—and the sooner the lancet lets out the secreted pus the better. There is no better application than a warm poultice thrice a-day afterwards—and all officious meddling with the wound occasioned by the lancet is to be deprecated. The practice of leaving the evacuation of the pus to nature as advocated by Denman, Burns, and Blundell, is happily becoming an antiquated and will soon be an exploded one. There is not one good reason to be assigned in its favour. There are many very sufficient objections against it.

Case 1.—M. C., æt. 18: was seduced by a policeman; a few days afterwards, the writer of this article saw, and examined her—there was extensive discolouration of the whole of the left labium—increased heat and swelling—the tumor fluctuated under the finger, and there was considerable constitutional disturbance, partly the result of agitation at the discovery of her weakness, partly the consequence of the injury. An incision was instantly made—fomentations and poultices were applied three times a day—a dose of compound jalap powder was administered—and the patient was well on the tenth day. In this case the inflammatory was changed from an unhealthy into a healthy process—the sides of the abscess adhered—the wound made by the lancet healed by the first intention—and the sufferer was well three weeks earlier than she would have been, had the suppuration been permitted to go on until the abscess opened spontaneously, when there would have been extensive ulceration, and proportionally delayed recovery. Dr. Mackintosh says rightly, that “mortification ought to be a very rare termination.”

An inflammatory affection of the labia, from dirt and acrid discharges is sometimes met with among the poor. The cuticle is abraded, and a seropurulent discharge oozes from the naked cutis, which becomes indurated—a circumscribed blush of inflammation surrounds it. The first thing to be enjoined in these cases is cleanliness, and that of all things is the most difficult to be enforced with some persons, whose skin, like the Ethiopians, never parts with its dinginess. Almost the only way to enforce it is to cover the part with a warm moist poultice—the change of this is attended with a removal of dirt—and the cause removed, the effect disappears. The following case (2) illustrates this affection. Mrs. D., æt. 33: the mother of several children and in a state of pregnancy, complained of pain and soreness in both labia—increased by walking—and accompanied with a discharge—the pain and the discharge together, driving her, as she said, mad. After

a good deal of affected modesty she submitted to an examination—the filthiness of the parts was abominable—the stench intolerable. Seat yourself in hot water immediately—and keep in the bucket till I see you to-morrow, was the first prescription; the following day the nastiness and stench were both removed. Fomentations and poultices ordered and constantly applied three times a day—on the twelfth day she was cured of the complaint, but not, it is feared, of the uncleanness which caused it, and she will probably be again and again subject to its recurrence. The only internal remedies administered in her case, were saline purgatives and nauseating ptisans of tartar emetic.

II. INFLAMMATION OF THE MUCOUS MEMBRANE OF THE VULVA,

Occurring in infants as well as in adults—occasioned in the former by cold, mechanical injuries, the application of irritants, uncleanness, and intestinal irritation: and caused in the latter by dirt. In children it is sometimes only a prevalent symptom of an epidemic disease. As it occurs in infants every practitioner ought to be acquainted with it. For fatal consequences have followed the mistake into which some have fallen, considering it a sequence of violent intercourse, instead of recognising it as a disease of no uncommon occurrence. Sir Astley Cooper was accustomed to call the particular attention of his surgical class to this disease, and most emphatically to caution them against falling into the mistake referred to. His benevolent wish that his remarks upon both might be echoed from one end of the kingdom to the other, we shall help him to accomplish.

“This is a disease,” says Dr. Churchill, “occurring at all periods of life, but presenting considerable differences according to the age of the patient. In children it occupies the whole of the mucous membrane of the external genitals, sometimes, but rarely, spreading to the vagina, accompanied with a profuse puriform or milky discharge, with smarting, but not severe pain, and ending in resolution, ulceration, or gangrene. This is the *leucorrhœa infantilis* of authors. In adults, on the contrary, the inflammation is very often partial and circumscribed, with a slight colourless discharge, intense pain, and ending almost always in resolution, very rarely in ulceration, and, as far as my observations have gone, never in gangrene.”

“The commencement of the disease is marked by local uneasiness, itching, and scalding on making water; the mucous membrane of the vulva is found inflamed and puffy, but, for some time, there is no discharge. The uneasiness felt by the child induces an attempt to relieve it by rubbing the part, which of course, aggravates the suffering, and increases the inflammation. At a more advanced stage, there is observed a colourless thin mucous discharge, speedily becoming more copious, thicker, and of a white or yellow colour. It is very often of an acrid character, and gives rise to a ring of inflammation and sometimes of excoriation of the skin at the margin of the vulva. If the labia be separated, the mucous membrane will be found more vascular and of a deeper colour than usual; but in very few cases does the inflammation extend up the vagina. The distress is increased with the progress of the disease—the smarting and scalding are very severe, and the little patient cannot walk without pain. It is very rare to find any constitutional disturbance, unless where this attack is but the local development of a general catarrh. Under ordinary circumstances the disorder is neither very tedious nor very obstinate, and, after running a certain course, it terminates in resolution.”—*Churchill*, p. 10.

Percival, Boivin, Dugès, Dr. Ferriar and Mr. Wood, of Manchester, and Dr. Mackintosh of Edinburgh, have all put cases on record of the above disease in its more malignant form. Dr. Percival's case, *Medical Ethics*, p. 103 and 231, is one deserving of mention, and ought not to be forgotten.

Case 3.—A little girl, four years old, was admitted an out-patient of the Manchester Infirmary. Feb. 11, 1791. The organs of generation were inflamed, sore, and painful. The child was reported to have been well until the day preceding, when she complained of pain on voiding her urine. She had slept two or three nights in the same bed with a boy, 14 years old, and had complained of his hurting her during the night. Leeches were applied, external applications and internal remedies administered in vain. The patient lingered a few weeks, becoming more and more debilitated, then died. A post-mortem inspection was instituted—an inquest held—the medical man's *opinion* received—upon that opinion, and the accompanying testimony of the mother—for *evidence* there could be none—a verdict of murder was returned against the boy with whom she had slept. And but for the providential occurrence of similar cases in the immediate neighbourhood, about the same time, and the commendable candour of the surgeon in acknowledging his mistake upon the occurrence of those cases, the poor boy must have been executed for an offence, which it is probable he had never so much as contemplated.

The painfully interesting cases published by Mr. Wood, (*Medico-Chirurgical Transactions*, vol. vii. p. 84), have been long before the profession, and when first published, excited considerable attention. Dr. Ferriar “met with several instances of putrid fevers in young girls, accompanied with broad maculæ on the body and limbs, and a gangrenous state of the labia pudendi. The parts were greatly tumified and extremely painful. It was a very fatal complaint,”—*Medical Histories and Reflections*, p. 169. And Dr. Mackintosh witnessed its occurrence as a sequel of measles in several cases. We give them in the author's own words with the view of their pathology taken by him.

Case 4.—“The first case of this affection that fell under my observation, occurred several years ago, in my dispensary practice. The patient, a girl of six years of age, when recovering from measles, during the progress of which there had been great gastro-intestinal irritation and diarrhœa, was seized with the disease of the pudendum, and died in the course of eight days. Every effort was made to obtain permission to examine the body, without success, but I saw sufficient to convince me that the child died, not so much from the effects of the external disease, as from inflammation, and perhaps ulceration, of the mucous membrane of the bowels.

Case 5.—Some time afterwards, I was asked by Dr. Moffit of the 7th Hussars, to see a child labouring under the disease at Peirshill Barracks; she was also attacked with it immediately after the recession of the eruption in measles, which had been mild, but attended with diarrhœa. The external inflammation, pain, and swelling of the pudendum, were fully as great as in the former case, and bore such a strong resemblance in its external character, that any one would have readily recognized the affection from a drawing in any portfolio. This child recovered under the use of poultices and fomentations, and the exhibition of gentle laxatives. Since then, several fatal cases have occurred in Edinburgh,

and the appearances on dissection were such as to confirm the opinion I had previously entertained,—the mucous membrane of the bowels displaying extensive vascularity and ulceration, particularly in the ileum. In one of the cases, the ulcerations were numerous and extensive; and in the other, the mucous membrane was found thickened and spongy in many places, and in the usual progress towards ulceration, which would certainly have taken place had the child lived a few days longer.”—*Mackintosh's Principles of Pathology, &c.*, vol. 2, p. 384.

The treatment of the milder form of this disease consists in fomentations—refrigerant and opiate injections—the prohibition of all stimulants—and the exhibition of mild aperients. In the more severe form, the treatment should commence with a purgative, and proceed with warm poultices. When ulceration begins, a decoction of bark, with the addition of aromatic confection, and of the tinctures of calumbo and opium, is recommended to be given internally, with wine.

In adults, inflammation of the vulva differs considerably from that already described as occurring in children. It is not so diffused—not so apt to run on to a breach of surface, and only gives rise to a discharge of transparent mucus. The pain is incalculably more severe. It usually terminates in resolution. Adhesion of the opposite surfaces may take place, but can only do so as a consequence of neglect. The treatment indicated, is more or less antiphlogistic. Rest, cleanliness, spare diet, empty bowels, emollient fomentations, and warm poultices, will generally effect a cure.

III. INFLAMMATION OF THE MUCOUS MEMBRANE OF THE VAGINA, OR VAGINAL LEUCORRŒA,

Commences with a sense of heat and soreness in the vagina; and an itchiness of the external parts; gradually increasing until pain and smarting are experienced, with a conjoint feeling of weight, tightness, and bearing down. Weight in the lower belly, and pain along the thighs, will also be felt, when the attack is violent. In a day or two after the above symptoms set in there is a discharge, varying in quantity, of a thin, colourless, sometimes acrid fluid, which shortly after becomes puriform, resembling cream in colour and consistence. On examination, made at the commencement of the disease, the mucous membrane of the vagina is found to be swollen and puffy—hot and tender—but without breach of surface. In most of the cases examined by Dr. Churchill, the vaginal portion of the cervix uteri was unaffected. The labia pudendi are occasionally swollen, the glands of the groin, more rarely, enlarged. As the disease advances, it parts with the acute inflammatory features, and assumes a chronic character, of which the principal sign is a profuse discharge. The heat and soreness are subdued—the swelling of the mucous membrane subsides.

The constitutional disturbance is proportioned to the severity of the attack; and, as well as the local symptoms, is allayed by the occurrence of the discharge.

It may be protracted from two days to a month; and treated promptly and judiciously, may terminate in resolution; or, neglected, slide into the chronic form.

Sir Charles M. Clark deems it impossible to distinguish it from gonorrhœa. Yet the diagnosis may be essentially necessary to the domestic

peace of a family. Ricord has supplied us, however with a means of distinguishing the two diseases in some cases. Of 200 cases of Gonorrhœa, examined by him with the speculum, two-thirds had an urethral discharge—an occurrence but seldom met with in leucorrhœa. He also found as the almost invariable attendant on gonorrhœa, that is, in 19 out of 20 cases, erosions or superficial ulcers of the mucous membrane covering the cervix uteri. The glands of the groin sympathize less with the discharge in leucorrhœa than that of gonorrhœa. And not a little stress is to be laid upon the moral character and habits of the patient.

Case 6. Mrs. W—, six months married to her second husband. The mother of several children—and having suffered greatly from preternatural labours—after a widowhood of seven years, married. The week before her marriage she had menstruated—a fortnight after was troubled with a mucopurulent discharge, which her family medical man pronounced to be gonorrhœa. Suspicion attached to her husband—and the domestic peace of the parties was apparently destroyed. Month after month passed over, not only without improvement, in her condition, but with progressively increasing discharge—debility—and distress. And, after six months, the writer was called in. She had the anxious, chlorotic countenance; complained of great pain and swelling in the hypogastric region on the left side; restlessness through the nights, nausea and occasional sickness through the days; menstruation arrested from the date of her marriage; and her mind haunted with the idea of having been irrecoverably injured by her husband on their marriage. She denied being pregnant. The breasts were examined, and the areola were found distinctly indicative of a pregnant state. She was told so—but affirmed it could not be, and that she, of all women in the world, could not be mistaken. The vagina was inspected, and the judgment pronounced was, “you are not suffering under any disease communicated by your husband—but you are pregnant.” In a week after her constitution rallied. In three weeks more, premature labour came on. She is at this time convalescent, with no discharge whatever from uterus or vagina. And, better still, is perfectly reconciled to her husband.

The treatment should be more or less antiphlogistic, in proportion to the intensity of the inflammation. Leeches to the vulva, followed by fomentations, and injections of hot solutions of the dilute acetate of lead, are principally to be depended on as external applications. Internally, nauseating doses of tartar emetic may be given with success. And, of course, rest, quiet, and a spare diet, should be enjoined. When there is much irritability, a solution of nitrate of silver may be applied with advantage.

When the use of the above remedies has been resorted to early, and persevered in diligently, without curing the disease, it is apt to assume the chronic form before alluded to.

In chronic vaginitis, the discharge has been ascribed to relaxation and debility:—that debility and relaxation may supervene upon a sharp attack of inflammation, is certain; and that a discharge resulting from inflammation in the first instance, may continue to flow when the inflammation is at an end, and even because it is at an end, we can also conceive; and that such is the case, moreover, in the chronic form of leucorrhœa: but we entirely agree with Dr. Churchill in tracing the disease in both its varieties to in-

flammation, attacking the mucous membrane of the vagina—and consider it of no small importance as affecting our practice. The chronic is caused by the same circumstances as the acute. The discharge however in the former differs from that in the latter: sometimes it is bland and colourless; sometimes brown and acrid. There is but little increased heat—little or no pain or tenderness. The inguinal glands are never affected. *If the discharge be profuse*, weakness is induced, and weariness felt, with aching pains in the back and loins;—*if it be long-continued*, dyspepsia follows.

Depletory measures are no longer, or but seldom necessary, when the acute has lapsed into the chronic vaginitis. Astringent lotions injected into the vagina. Opiates and tonics administered internally, will generally cure the disease. Leeches *may* be necessary at the beginning—when any inflammation is remaining they should be applied to the vulva, and the parts afterwards washed with fomentations.

It is sometimes complicated with uterine leucorrhœa—and Dr. Jewel has noticed a metastasis to the joints, in some cases upon sudden suppression of the discharge.

IV. INFLAMMATION OF THE GLANDULAR STRUCTURE OF THE MUCOUS MEMBRANE COVERING THE CERVIX UTERI.

This disease has been described by Sir C. M. Clarke, under the title of “the white discharge”—the peculiarity of which, and the state of the cervix and os uteri, are its distinguishing marks.

The symptoms are—an aching sensation or pain in the back, and lower part of the abdomen—increased by motion, pressure, and sexual intercourse; a perfectly white coloured, opaque discharge; tenderness and puffiness of the cervix uteri. “In many instances, the white mucous discharge is much thicker than cream, having the tenacity of glue; and perhaps this is the state in which it came away from the cervix uteri. When the white opaque mucus possesses the tenacity just mentioned, it does not flow spontaneously, but it remains in the vagina, either until the exertions employed to empty the rectum squeeze out at the same time the contents of the vagina, or perhaps, by remaining in the vagina, it may by mixing with the mucus of that part, become attenuated.”—*Clarke on Diseases of Females*, vol. ii. p. 7.

“Judging from the local symptoms generally present, and from the resemblance which this white discharge has to the secretion from the glands in the mucous membrane of the neck of the womb under other circumstances, Sir C. Clarke concludes that it is this glandular apparatus which is the seat of the inflammation in this disease. There are seldom any constitutional symptoms present.

Sir C. M. Clarke throws out a hint as to the probability of this affection of the glandular apparatus being the precursor of more serious uterine disease, as carcinoma—a supposition which is strengthened by the greater frequency of the latter disease in glandular than in any other structure, and by the destruction of the cervix preceding that of any other part of the uterus in cancer.”—*Churchill*, p. 30.

The treatment, like that of the former disease, is antiphlogistic. Dr. Churchill says he has found cupping over the loins by far the most efficacious mode of taking away blood. Might not a few leeches be introduced in a tube and applied to the cervix uteri, thereby attacking the disease directly?

The hip-bath twice a day—and injections of warm water thrown up the vagina three or four times a day, will furnish considerable relief. The bowels should be kept open—and, as there is generally irritability of the bladder present, the best form of purgative is castor oil, combined with a full dose of laudanum.

V. GRANULAR INFLAMMATION OF THE MUCOUS MEMBRANE OF THE CERVIX UTERI.

The best account of this disease is given by Boivin and Dugès in their valuable work.

The granules are visible on the labia of the os, and on the external surface of the cervix uteri; and, when the result of acute inflammation, are few in number, about the size of peas, subpediculated, firm, and whitish; or, not larger than millet-seeds when they are numerous, without a pedicle—soft, and even vesicular; the parts are red and vascular, bleeding when touched; and there are pain and vaginal discharge. In the chronic variety, the granules are “either small, hard, and whitish—reddish and soft—or miliary, without redness of the surface of the cervix uteri from which they grow”—and without the excessive vascularity of the acute form.

The treatment consists in local bloodletting, warm baths, injections, and counter-irritation, in the acute stage: in the chronic form, astringent injections and counter-irritation externally; tonics and the mineral waters internally.

VI. INFLAMMATION OF THE MUCOUS MEMBRANE OF THE UTERUS; OR, UTERINE LEUCORRHEA.

We have already noticed the corresponding affection of the Vagina: the distinction insisted upon by Dr. Churchill between vaginal and uterine leucorrhœa, leading as it does to very important practical differences in the treatment of the two diseases, has nevertheless been little noticed by previous writers on female complaints. Siebold and Joerg, among the Germans, describe the uterine variety; and Boivin and Duges, among the French, allot a chapter to it. Dr. Locock withdraws from the attempt to establish such a distinction in despair; Dr. Blundell treats of vaginal leucorrhœa only; while the French writers generally restrict the term leucorrhœa to the uterine discharge. Denman, Hamilton, Burns, and Marshall Hall, among our own countrymen, very accurately distinguish the two seats of the respective complaints. An examination with the speculum, by M. Marc d'Espine, (*Archiv. Gen. de Med. Feb. 1836.*) gave the following result in 193 cases. In 130, the discharge was abundant—in 40, a drop only of discharge at the orifice—in 23, the orifice was dry. The crinice may be healthy, pale, red, bright red, or granulated and bloody.

Dr. Churchill enumerates the following circumstances under which it occurs, as “not only illustrative of its nature,” but also “as affording data for our diagnosis.”

1. In young delicate females, “at one or two of the monthly periods preceding the development of the catamenia, and vicarious of them.”

2. In suppressed menstruation, "the monthly periods are often marked by a discharge of 'whites,' nearly the same in quality, and continuing as long as the natural secretion."

3. The *intervals* of menstruation being occupied by uterine leucorrhœa, the discharge increasing for two or three days before the appearance of the menses, and when these have subsided, returning in great quantity. It not unfrequently supersedes and becomes vicarious of the catamenia.

4. Menorrhagia is occasionally caused, and sometimes accompanied by it; the complication adding much to the distress of the patient, and the menorrhagia not being easily relieved until the leucorrhœa has been cured.

5. The few last periods, previous to the cessation of the menses, are often characterized by this discharge occurring as vicarious of, or alternately with, the proper menstrual flux.

6. In chlorosis it is often vicarious of the menses, and continues so for many months.

7. After abortion, it is "secreted either constantly or occasionally, for some months, and this condition of the uterus appears to predispose to successive abortion."

8. After the disappearance of the lochia, consequent upon child-bearing, this discharge will often continue for several weeks; or, at the end of one and two months after a first confinement, it frequently appears to the great but unnecessary alarm of the patient and her friends.

"These," says our author, "are the principal circumstances under which I have observed the disease, and in which little doubt can be entertained as to the source of the discharge. *In all the varieties it exists either concomitantly with or immediately succeeding to, an evident uterine affection, or it is complicated with menstruation.* In the former, there is an *a priori* presumption, that the discharge is from the uterus, and in the latter, the effects of the periodical determination of blood to that organ, upon the quantity of the secretion, would seem to point to a similar inference, especially when we find that *no such augmentation is observed in vaginal leucorrhœa.*

At the same time, it cannot be denied that vaginal leucorrhœa may be also present in any of the foregoing cases, although the uterine disorder be predominant, and modify all the symptoms. Neither is it asserted, that all cases are as obvious, and as easily to be made out, as it would appear from the description on paper.

It may be defined as *a more or less profuse discharge of fluid secreted by the lining membrane of the uterus, (in a state of inflammation,) varying a good deal in quantity and colour, but neither accompanied nor followed, necessarily, by disorganization of the tissue of the womb.*

It may attack females of all ages, the *acute* form is more frequent in younger, the *chronic* in elder persons. It is observed in women of every temperament, according to the peculiar cause. In the leuco-phlegmatic, in whom, from deficient '*materiel*,' the uterus appears unequal to the secretion of the florid catamenia, or in whom, from constitutional causes, the vessels of the mucous membrane lining the womb are in a state of unusual activity: in the plethoric and robust, in whom the circulation, rapid and energetic throughout the whole system, is peculiarly so in the sexual organs during their functional life;—and in the melancholic, whose mental depression so frequently aids in the aggravation of what was originally a trifling malady, and whose fears are acutely alive to any disorder affecting these parts."—Churchill, 129-30-31.

The causes of this disease are the same as those enumerated under the

previous heads. Dr. C. thinks it may arise also, in part, from certain states of the constitution.

It may be either *acute* or *chronic*. Of a very severe type of the former, the following is a description by M. Lisfranc, (*Mal. de l'Uterus*, p. 249.)

"Often, after some inappreciable cause, an unpleasant itching of the genitals is felt, increasing until it reaches to the uterus, to this is joined a sense of heat and weight in the pelvis. The hypogastrium becomes tense and sensible to the touch. The womb seems to press inconveniently upon the perineum. The patient experiences dragging about the loins, extending to the groins, hips sacrum and thighs. There is frequent desire to pass water. The pudendum often participates in the tumefaction of deeper-seated parts, and hence standing and moving is very painful; and if the swelling of these parts is considerable it may be impossible to remain in a sitting posture. This state is ordinarily accompanied by nausea, lassitude, and 'malaise,' sometimes by pain in the joints. About the third or fourth day, if the disease be not previously arrested by appropriate treatment, a clear, limpid, viscous discharge escapes from the vulva."

When the menstrual has been superseded by the leucorrhœal discharge, the effects are necessarily severe. The local suffering is great, being indicated by constant itching or pain in the uterus. The constitution of the sufferer sympathises; she is languid, and indisposed to move or exert herself; the pulse *acquires* and accelerates its speed, while its volume diminishes; it is, *as in all cases of inflammatory uterine affections*, hard and incomprehensible; her skin assumes the chlorotic colour, flabbiness, and clammy moisture, although it is sometimes hot and dry; her eyes sink in their orbits, and their lids become discoloured and livid. Frequent and severe nervous headaches, in the region of the occiput principally; vertigo and faintings; sympathetic pains in the kidneys, spleen, and other remote parts; and palpitations of the heart;—accompany the local disease, and form very characteristic marks of its true character.

"The tongue is seldom dry or loaded, but generally of a yellowish red colour, flabby and indented by the teeth. (Marshall Hall). And a diminished and fastidious appetite, torpid bowels, deficiency of bile, and the forehead and face spotted with *acné punctata vel rosacea*, sum up the melancholy catalogue of symptoms.

The discharge varies in quantity, and in quality. Dr. Churchill has known it "so profuse as to oblige the patient to use several napkins in the course of the day." In most cases it is bland, unirritating, and colourless; in some, however, it has been observed by Dr. Hamilton, sen., of a greenish or brownish tinge; by Dr. Churchill, so acrid, as to excoriate the labia and adjacent skin.

It is of variable duration. But, happily, almost universally curable. As it may be confounded with, so must it be distinguished from, 1st uterine gonorrhœa; 2nd, vaginal leucorrhœa; 3rd, inflammation of the glandular apparatus of the cervix uteri; 4th, from the contents of an abscess of the uterus, ovary, or cellular membrane, discharged through the vagina. The diagnosis, though difficult, may be obtained by attention to the following particulars. In gonorrhœa there are generally present the superficial erosions described by Ricord—a burning pain along the genital canal—a deeper coloured discharge than in leucorrhœa—scalding on voiding the urine—and urethral discharge—"when uterine leucorrhœa occurs during the

intervals of menstruation, the discharge is always increased after the catamenia cease, and most frequently before they appear, and gradually encroaches upon the due performance of that function, rendering the flow less copious or less regular." *Churchill*, p. 136. As far as his experience goes, Dr. C. adds, "no such phenomena occur with vaginal leucorrhœa." In inflammation of the glandular apparatus of the cervix uteri there is a regular white opaque discharge, and constant tenderness on pressure. In abscesses, there can be no mistake, if ever so little attention be paid to the qualities of the matter discharged, and to the presence or absence of previous symptoms of uterine leucorrhœa.

The difference in the treatment of vaginal or uterine leucorrhœa, rests chiefly in the use of injections, which decidedly beneficial in cases of the former disease, are as decidedly injurious in cases of the latter. The catalogue of remedies reported to have been prescribed with success in this last disease, is a long one. Balsam of copaiba; sulphate of iron: log-wood; spurred rye; powdered colchicum root; iodine; capsicum; quinine; the chalybeate waters; tepid or cold salt water effusions; blue pill and rhubarb; aloes; assafœtida and castor oil; emollient enemata; conium; hyosciamus and opium; water or milk and water ablutions; and lotions of sugar of lead and water, and of calomel and lime water; like the pots, bottles, and boxes in the needy apothecary's shop, who sold the Mantuan drug to Romeo—"all thinly scattered, to make up a show," have been severally recommended in this disease. We object very greatly to such thronged lists of remedies for each particular complaint. They display, not so much the resources of the physician, as the indefiniteness of his knowledge of the specific properties of medicines. Dr. Churchill has seen benefit derived from the four first mentioned, and has found their beneficial effect greatly increased by the previous application of a blister to the sacrum.

VII. INFLAMMATION OF THE SUBSTANCE OF THE UNIMPREGNATED UTERUS.

This is both a rare and an obscure disease, occupying the body, or cervix, or both; and either confined to the proper tissue of the uterus or involving its lining membrane; and seldom occurring before puberty or even before marriage.

If acute, there is pyrexia at the commencement, succeeded by heat and uneasiness in the pelvic region—occasional sharp pains in the back, darting through to the symphysis pubis, and down to the groins and thighs. There is, besides, a constant dull, bearing-down pain, increased by coughing or sneezing. Pressure of the abdomen downwards, towards the brim of the pelvis, occasions considerable pain. On examination, internally, the womb is found to be enlarged, and pressing the cervix gives pain. In some cases menstruation goes, on, but the sufferings of the patient are greatly aggravated at every monthly period. In other cases it is entirely arrested; and, now and then, there is a slight mucous discharge. The constitution is very variously affected. The pulse is quick and small. The skin generally hot and dry, but sometimes also cold and clammy. The local irritation extends to the rectum, vagina, bladder and urethra, and there are pain and difficulty felt in voiding either the fæces or urine. Other parts sympathise with the uterine disorder—the breasts swell and become painful—the

stomach is rendered irritable—anorexia and dyspepsia follow in the train—the bowels are constipated, and the general health is impaired.

If *chronic*, the above symptoms are all present; but in a minor degree, and there is but little constitutional suffering, a soft pulse and only slightly accelerated.

It frequently terminates in resolution. Never degenerates into cancer. Is only very seldom fatal. It may, however, terminate in hypertrophy ramollescent, abscess, and gangrene.

It may be confounded with scirrhus of the womb, cancer, inflammation of the bladder and rectum, and with gastric irritation.

The treatment depends upon the character of the attack. In both, it must be decidedly antiphlogistic. General bloodletting, however, is less to be resorted to than local blood-letting. Guibourt and Duparcque apply leeches to the uterus itself by means of the speculum, and the practice is deserving of further trial. Dujarrie Lasserre recommends the uterus to be repeatedly punctured—a practice, as utterly to be repudiated. Drs. Marshall Hall and Heming advise counter-irritation. Astruc and Mr. Stewart have used cooling and anodyne enemata with benefit—and, by the latter, they are preferred to the vaginal injections. While, according to Dr. Churchill, anodyne fomentations externally employed, and, at a more advanced stage, embrocations to the loins, are “highly beneficial.”

Calomel, antimony, and opium, are invaluable internal remedies.

VIII. INFLAMMATION OF THE FALLOPIAN TUBES.

The Fallopian tubes are subject to the same morbid changes as the uterus and ovaries; and, besides this, they participate in all the acute diseases of each. The diagnosis is, from this circumstance, extremely difficult. Happily, however, the treatment does not depend upon their being accurately distinguished from the similar affections of those organs.

Acute inflammation of these tubes, is generally only an extension of the inflammation previously subsisting in the uterus or the peritoneum. It sometimes arises as an idiopathic affection.

Its symptoms are “deep-seated, throbbing pain in the hypogastrium or iliac region, extending to the groins and down the thighs,” local heat, abdominal tenderness, and the absence of swelling. Dr. Robert Lee, in the articles “Ovaria” and “Pathology of the Uterus,” printed in the *Cyclopædia of Practical Medicine*, has expressed his belief that, “in many cases of painful menstruation there exists a state of great congestion or inflammation of these organs (ovaries), and there can be little doubt that the Fallopian tubes often participate in the same disease.” And Boivin and Dugès, attribute to chronic inflammation of the internal, or mucous membrane, alone, the discharge, in many cases of supposed leucorrhœa, whether uterine or vaginal. Melanotic and tuberculous diseases, are, by the latter writers, also traced to the same cause.

Both acute and chronic inflammation may terminate in suppuration, and the abscess open internally or externally.

Of the existence of chronic inflammation of the Fallopian tubes, there can be no doubt. The diagnosis, in the present state of our science, is, however, impracticable.

Adhesions of their fimbriated extremities to the ovaries, and obliteration of their canals, are frequent consequences of such inflammation—and of course occasion sterility in the sufferers. "One of the most frequent morbid appearances," says Dr. R. Lee, "observed in the bodies of young subjects after death, is adhesion of the Fallopian tubes to the ovaria, by short, firm, adventitious membranes; or by long, slender, transparent filaments."—*Cyclop. of Practical Medicine*, vol. ii. p. 377.

The indications of treatment are the same as in metritis.

IX. INFLAMMATION OF THE OVARIES.

Inflammation of one or both ovaria is sometimes, though but rarely, an idiopathic disease. More generally, however, it is complicated with peritoneal or uterine inflammation. The entire substance of the ovary is, in most cases, involved in the morbid action—although, by some, it is supposed to affect, in particular cases, only the Graafian vesicles.

The periods of its most frequent occurrence are, immediately prior to, at, and shortly after menstruation; and, shortly after abortion or labour.

The symptoms are always more or less fever; a hot skin; and accelerated pulse; deep-seated and severe pain in the cavity of the pelvis; accompanied with a sensation of burning; the pain not constant, if the patient remain quiet—aggravated if she move about. A slight puffiness or swelling may be perceived on either or both sides of the abdomen at its lower part, which is painful when pressed. An examination "per vaginam" elicits nothing, while, on the other hand, one "per rectum" enables the examiner to reach the ovary, and to ascertain whether its bulk be increased, and whether it be tender under pressure. Dr. Löwenhardt first pointed out to the profession the importance and accuracy of the information obtained by this latter examination.

The acute sometimes issues in the chronic form. Both may terminate in resolution. Or the inflammation may spread to the broad ligaments and to the peritoneum generally. Softening of the substance of the ovary may also result from this disease—or it may run into suppuration, and in these last cases enormous quantities of pus have been desposited; the formation of which is indicated by rigors, softness of the pulse, mitigation of constitutional symptoms, and increasing sense of local weight and throbbing. Gangrene, of course, is a fatal termination, but it seldom takes place. Swelling and induration may likewise be terminations of the chronic form. "Such cases, after the commencement of the disease, will often remain stationary, and without any inconvenience for many years."—*Dr. Seymour, Diseases of the Ovaries*, p. 40.

In both forms of the disease, the treatment is the same in kind, and differs only in degree, being proportioned to the intensity of the symptoms.

"In the acute form, * * * * The most active antiphlogistic treatment will be necessary, venesection, leeches to the iliac region, to the groins, anus, or labia, should be prescribed, (*Solon*), followed by poultices and fomentations to the lower belly, calomel and opium, &c. Emollient vaginal injections and enemata will be beneficial; absolute rest and a spare diet must be adopted. A judicious application of these remedies will, in many cases, especially in idiopathic ovaritis, be adequate to the relief of the disease.

We must attentively watch the course of the disease, and be prepared to meet each *complication* appropriately.

If matter be detected in the iliac fossæ or groins, it must be evacuated, but it is desirable that we should wait until adhesions be formed between the ovary and peritoneum (*Solon*); whenever this is the case, an opening is to be made (*Boivin* and *Dugès*) with a bistoury or caustic. *M. Solon* thinks the latter preferable, because it tends to determine adhesions, whilst it forms an eschar, which eschar may be punctured in its centre.

If the pouch of matter be felt through the parietes of the vagina, it will not be difficult to penetrate it with a lancet or trocar. In a case, related by *M. Solon*, which occurred in the hospital Beaujon, absorption of the matter took place just as it was determined to puncture the cyst.

Against gangrene we may employ antiseptics and chlorides internally, with blisters and camphorated frictions externally.

In the *chronic form*, antiphlogistics are no longer of the same value, and we must have recourse to counter-irritation by setons, moxas, &c.

Benefit is sometimes derived from frictions with iodine, or from its combinations with mercury.

Small and repeated doses of calomel have been found very useful, with decoction of sarsaparilla.

The general health should be attended to; the diet must be moderate, and gentle exercise may be taken."—*Churchill*, p. 358-9.

There are two diseases very closely allied to inflammatory affections, which, however, in the one case, by *Dr. Gooch*, and in both by *Dr. Churchill*, are looked upon as possessing rather a neuralgic than an inflammatory character. The one is, itching of the vulva—the other, irritability of the uterus. Both are melancholy diseases; the former, because, if neglected, leading to moral depravity; the latter being slow of cure, rendering the sufferer unfit for the duties of a wife, and, unless removed, precluding the possibility of her becoming a mother. We incline to consider them as sub-acute inflammations—and the success of mild antiphlogistic treatment, in the hands of both writers, confirms us in this view.

The terminations of inflammation are too well known to require enumeration—they are common to every tissue and organ in the body, which is capable of becoming the seat of inflammation, with hardly any exception—and the uterine system is not one of the exceptions. Ulceration is one of these terminations, and we have now to consider this instance of a new disease succeeding to and consequent upon a previous one; in the cases of simple ulceration of the neck of the womb, and corroding ulcer of the uterus; the chancreous ulcers originating in impure connexion, have nothing in them to claim present notice—and the superficial ulceration occurring in gonorrhœa has been already adverted to.

X. SIMPLE ULCERATION OF THE CERVIX UTERI.

This is a disease apparently unaffected by temperament; and occurs at any time after the development of uterine action, but is much more frequent in women who indulge in sexual intercourse than in virgins—and in prostitutes than in married women.

Arising from violence, cold, the use of astringent injections, and the practice of masturbation, its symptoms succeed one another in the following

order. Occasional shiverings—flushes of heat in different parts, especially the face—a dragging pain in the loins, and sense of weight at the anus, the pain increasing at every monthly period denote the inflammatory stage, before the commencement of ulceration. Sexual intercourse is attended with pain. Then, a slight sanguineous discharge recurs at intervals. The cervix uteri, if felt, is found tender to the touch; more or less swollen and spongy: and heated. The os uteri is preternaturally open.

The ulcers, at the beginning, are very numerous and small, but afterwards coalesce, and vary in size “from a pin’s head to a shilling.” Their surface is reddish, and their edges well defined. They are of varying depth, in some instances being mere erosions—in others, involving the whole substance of the cervix.

They may be distinguished from the syphilitic by their regular and defined edges, and by the difference of the discharges in the two diseases. In lues, it is yellow; in the simple ulcer, dirty white, occasionally bloody, and inodorous.

The corroding ulcer and the cancerous ulceration are as easily distinguishable from it; in the former of these two all the symptoms are more severe; there is concomitant hæmorrhage, and a stinking discharge. In the latter, morbid deposition, immobility of the uterus, a fetid discharge, and the peculiar gnawing pain of cancer.

In the inflammatory stage the disease may be subdued by antiphlogistic treatment. In the ulcerative stage, warm emollient injections and astringent ointments are both recommended: in the event of their failure, the repeated application of caustic to the ulcerated surface. Jobert and Marjolin are reputed to have had great success in the management of these cases; the remedy they apply is the pernitrate of mercury.

The bowels are of course to be kept empty. And the frequent use of the hip-bath will always prove beneficial. And here, it occurs to us to recommend in all cases of inflammation and irritation of the uterus the evacuation of the bowels, not by purgatives received into the mouth, but by emollient glysters. In the former, the effect is produced by irritation—that irritation is propagated by sympathy to the uterus, and the disease already there is increased. By the latter, the hardened feces are simply removed, the gut merely emptied, not irritated. And irritation is taken away instead of being added.

Dr. Churchill asks—“Should these remedies fail, are we under any circumstances to excise the neck of the uterus?”—Certainly not. We have had on this side of the Channel, French surgery crammed into us, usque ad nauseam: and are happy to say, the operation for excising the neck of the uterus is a piece of French surgery. Lisfranc’s book makes it appear “a simple and safe operation”—*simple* enough in all conscience it certainly is—how far it may be considered *safe* even in the hands of the *veritable* Lisfranc himself, is to be learnt, not from that surgeon’s book of fables, but from the complete exposure of his mis-statements by M. Pauly.

“1. Instead of the 99 operations stated by M. Lisfranc to have been performed by him, only 53 can be made out.

“2. There are no exact accounts of the failures which happened in hospital.

“3. Out of 19 private patients operated upon, only one has been permanently benefitted.

"4. Of these 19 cases, four died within 24 hours—twelve had an immediate relapse, and in two others, the carcinoma not being entirely removed, the patient only sank the more rapidly.

"5. Out of nine patients operated upon under M. Pauly's observation, and near whom he remained 24 hours, six were attacked with frightful hæmorrhages; and of these six, three died within 24 hours."

Well may Dr. Churchill add:—"Such facts are enough to deter the most hardy from attempting this fearful operation, and THE EXPOSURE OF SUCH MIS-STATEMENTS IS A STRIKING LESSON TO ALL WHO, IN ORDER TO MAKE A REPUTATION, ARE READY TO FORSAKE THE PATHS OF HONOUR AND TRUTH."—P. 248.

We presume that, after the above exhibition of veracity, we shall find few English surgeons so infected with the cocoethes operandi as to perpetuate M. Lisfranc's operation—"so simple and so safe."

We pass on to another and more terrible disease.

XI. THE CORRODING ULCER OF THE UTERUS.

A disease frequently confounded with, but essentially different from, cancer; and liable to be neglected by incautious observers, if mistaken for simple ulceration of the uterus.

It attacks females of the "lymphatic temperament" especially; and occurs when the menses cease, or shortly after.

Its symptoms are frequently ushered in by occasional pain or uneasiness in the pelvis—an internal sense of heat—and leucorrhœa. Sometimes there are no precursory signs, and the first indication of disease is a profuse hæmorrhage, when, upon examination, more or less ulceration of the cervix uteri is found, having a rough granular surface, and differing in sensibility in different cases. "*The remaining portion of the uterus is scarcely at all enlarged, and the contents of the pelvis are free and moveable.*"—Churchill, p. 212.

The hæmorrhage returns at intervals, diminishing in quantity towards the close of the disease, and affording temporary relief. In the meanwhile, a profuse discharge from the vagina takes place, of a thin, ichorous, and fetid matter, varying in colour from a pale yellow to a dark brown. The patient complains of weakness, weight, and pains in the back, loins, and lower belly—sometimes lancinating, at others burning. The constitution becomes seriously implicated; and diminished appetite, occasional sickness, irregular action of the bowels, a hurried but feeble circulation, a dry skin and sallow complexion, with low fever, render miserable the existence of the sufferer.

The progress of the disease may be slow or it may be rapid. During it, occasional examinations *per vaginam* discover the ulceration extending itself circularly round the cervix uteri, or on the surface of the uterus, and, at length, penetrating the bladder, or rectum, or both. Excoriation of the vulva often aggravates the disease. And the patient at last sinks from exhaustion, or may be carried off by peritonitis or by hæmorrhage.

After death, "the uterus is found more or less destroyed by ulceration, which sometimes extends itself circularly, so as to destroy the cervix and part of the body completely, leaving the remainder suspended by the ligaments, and uncon-

nected with the vagina, except by the surrounding cellular tissue; in other cases, it attacks the anterior or posterior wall of the uterus only, with the neighbouring portion of the vagina, and the bladder or rectum. If the bladder be perforated, the vagina will be found more or less coated with matter deposited from the urine: if the communication be with the rectum, fecal matter will be found in the vagina: I have never seen a case in which the bladder and rectum were both perforated. It is important to remark, that there is no deposition of new morbid matter either in the uterus itself, or in the neighbouring parts."—*Churchill*, p. 213-14.

Sir Charles Clarke says there will appear abundant evidences of the destructive process, but no hardness, no thickening, no deposit of new matter.

The similarity of this disease to cancer is very great—the diagnosis proportionately difficult—a vaginal examination alone can detect the distinguishing mark. *In cancer* there is considerable "deposition of new matter into the cellular membrane and glands between the vagina and rectum—and between the vagina and bladder." *In corroding ulcer*, no such deposition takes place. *In cancer*, the uterus is immovable. *In corroding ulcer*, it may be moved by the gentlest touch.

The prognosis is generally unfavourable—and little therefore can be hoped for from remedies, but a palliative effect. Excision of the cervix uteri is a barbarous, unsafe, and most uncertain operation. Extensive cauterization might possibly be useful. Dr. Churchill has used vaginal injections of nitrate of silver, of the strength of 10, 20, and 30 grains of the salt dissolved in two or three ounces of water, with temporary benefit; the pain being assuaged, and the discharge rendered inodorous.

And here, for the present, we finish our notice of Dr. Churchill's valuable compendium; but only for the present—hoping to bring it a second time before our readers, when we review the subject of female diseases; and in the meanwhile strongly recommending it to every practitioner, as a volume which will amply repay its purchasers and readers.

It is one of the best medical digests with which we are acquainted, and its author evidently combines the erudition and good taste of the scholar and the gentleman, with the professional experience of an accomplished physician. His language is all that can be desired in professional writing—and the candour with which he notices contemporaneous writers who have gone over the same ground with himself, reflects credit alike upon his head and heart. And it is well—for if any man can afford to praise the labours of others it is surely he whose own labour is deserving of all praise. The professional public, which is generally a discriminating one, will, we trust, confirm our verdict, by speedily calling for a second edition of Dr. Churchill's work. We look forward with much pleasure to the announcement of another volume on the Diseases of females during Gestation, from the same pen; and hope the success of this, will accelerate the publication of that.

DE L'INFLUENCE DES CLIMATS SUR L'HOMME. Par P. Foissac, Docteur en Medecine de la Faculté de Paris. A Paris, 1837.

ON THE INFLUENCE OF CLIMATE ON MAN. By P. Foissac, M. D.

Et plaga, cœli non solum ad robur coporum, sed etiam animorum facit.

Climate contributes to the strength not only of the body but also to that of the mind.

THE author of the book of which we are now about to present a condensed analysis to our readers, originally intended it to form only a part of a much more extended work, entitled, *Histoire naturelle et Philosophique de l'Homme*. But discovering, as he proceeded, the great importance connected with such a subject as the influence of climate on man, on the production of those diseases to which he is obnoxious, as well as on the development of his intelligence, he saw that so interesting and extensive a question could not be discussed adequately or satisfactorily as a mere episode, and so determined to devote a separate volume to it.

In ordinary parlance *climate* signifies merely the temperature of a region. Medical and philosophical writers in general however give a much less restricted signification to this term. Hippocrates in his treatise *de aere, aquis, et locis*, attributes the effects of which he intends to give an account not merely to the temperature of the air, but to all its other combined qualities; not only to the degree of latitude of the soil, but to its nature, to that of its productions, and to that of the waters with which it is irrigated. Climate embraces generally the aggregate of all the physical circumstances connected with each country; in itself it constitutes this aggregate, and all the characteristic features by which different countries are distinguished, enter into the idea which we should form of climate.

"To observe," says Professor Rostan, "the simultaneous effects of light heat, electricity, of the winds, &c. on the organic productions of the different zones of the earth, to explore the nature of this earth, to deduce from this knowledge the influence which they exercise on the physical and moral state of man, such is the wide field which climates present to our investigation." Our author defines the signification of the term climate "the aggregate of all the external, physical, and natural circumstances attached to each locality in their relation to organized beings." For convenience he intends to adopt the division of climates according to the temperature peculiar to each country into three great classes, into *warm* (chauds), *cold*, and *temperate climates*. This distinction he prefers to that of Polybius, which has been adopted by some modern writers, into warm and dry climates, warm and moist, cold and dry, cold and moist. Whatever classification of climates be adopted, it will inevitably be incomplete and defective, in as much as certain points separated arbitrarily will become confounded together by imperceptible shades.

Did the phenomenon of heat depend solely on the position of the sun with respect to the countries which it illumines, the division would be absolute, and capable of mathematical precision. But a multitude of circum-

stances, some known others unknown, cause a variation in the degrees of temperature, and modify the power of the solar rays in countries which are very near each other. The most simple observation shows us that at certain heights eternal snows prevail, and that in general the heat increases according as the country becomes less elevated. The limit of ice and snows upon mountains varies in proportion to the latitude; under the Equator they are perpetual only at 4,800 metres above the level of the sea, whilst at 65° they become so at 1,500 metres. The way in which a locality is exposed also produces great varieties in its temperature, and the direction of mountains has no less influence.

Every climate is again modified according as the air is calm, or according to the nature of the winds which blow over it. Siberia is colder than other countries of Norway and Russia which are as northern, but happen to be protected by mountains from the winds of the frozen ocean. The particular nature of the soil, its cultivation, productions, and the proper temperature of the globe, are so many modifying causes. Thus dry sands increase the heat; to this cause we must attribute in a great measure the excessive temperature of the deserts of Arabia and of the centre of Africa; whilst on the contrary, clayey and saline soils cool the atmosphere, as we observe in the environs of Astracan, and in several other countries. Cultivation has in general the effect of moderating extreme climates. Germany, which was very cold in Cæsar's time, is now one of the most temperate countries of Europe.

The proper temperature of the globe is one of the most obscure points of geology. Mr. Fourier has proved that the heat increases in the ratio of the depth of the strata of the earth, and he has determined with precision the measure of this increase. According to him the solar caloric penetrates by decreasing degrees into the bowels of the earth; it is compensated by an equal quantity of central caloric, which is lost at the Poles. The temperature of the Poles is little inferior to that of the planetary spaces, which is 40° below the freezing point; such also would be that of the earth, if the sun ceased to illuminate it by his rays. Thus the heat on the surface of the globe is regulated by the solar influence, and a change would be necessary in the astronomical relations of our planet, and of the body around which it gravitates, in order perceptibly to modify the return of the seasons, and the nature of the climates as now established.

Of all the modifying influences which have been as yet considered, there is none so powerful or so universal as that of water, whether it be considered as flowing by numberless canals into the entrails and on the surface of the earth, and becoming mixed with all the vegetable productions, or as accumulated in the immense reservoirs of the sea, and surrounding those continents which it appears destined one day to swallow up. The sun by its rarifying heat pumps up and reduces to the state of vapour the water of the different seas and rivers; the wind favours and assists this evaporation, and wafes into the atmosphere those humid emanations, which condensed by the cold of the night, again fall in copious dews, or which, when subjected to other physical laws, form rain, snow, and hail. The evaporation of water takes place entirely at the expense of the surrounding caloric; the vicinity of large rivers, and more especially of great seas, changes the temperature of the atmosphere. It is then very easy to account for the delightful climate

of some isles in the middle of the Pacific Ocean, under the Torrid Zone; but it is not so easy to understand how, in the North, the sea-coasts enjoy a milder temperature than the interior of the plains. This however is ascertained from observation. Thus we see how the combined action of so many causes renders the classification of climates so difficult, if such classification is to be based solely on terrestrial geography. After laying down his division of climates into *hot*, *cold*, and *temperate*, he proceeds to the *first part*, which treats of the *Influence of Climate on Physical Organization*.

Chap 1. *Of Animal Heat*. After considering the various sources of caloric in general, he comes to the subject of animal heat. Man, he says, has a temperature peculiar to him, and which continues the same at all times, and under all conditions of life. It is inherent in his organization, as the blood, lymph, and the different parts of the system. Some physiologists derive animal heat from a vital property or function as essential to man as sensibility and contractility, and designate it sometimes by the name of caloricity, sometimes by that of calorification. Others see in the faculty possessed by animals, of keeping up an almost invariable degree of temperature, merely the result of essential functions, the product of a concurrence of organs. The proper heat of the body is about from 98° to 100° Fahr. in the great cavities and in all the vital centres; this is the temperature of the liquids which circulate in the vessels, and which are thrown out by the excretory ducts. Titing has stated (*Description de Curacao*) that the animal heat is two or three degree less in the people within the Tropics, whilst Davy has found it one or two degrees higher in the island of Ceylon. These contradictory facts are not borne out by the majority of observers. Gmelin, Ross, and Parry, advanced as far as 74° North latitude; there the alcohol thermometer marked 60° below zero, without this intense cold producing any appreciable diminution in the temperature of the body. Neither does external heat appear to have a more marked effect than cold on the phenomenon now before us. The Russians, Poles, Swedes, can endure the air of stoves heated to 167° F. without inconvenience. Several other experiments of the same kind satisfactorily prove that man and animals can preserve their natural temperature under very high degrees of external heat. The effects, however astonishing they may appear, are not incapable of explanation. In fact, the animal heat inherent in the human body at the time of birth, is kept up by the combined effect of several organic acts, and particularly those of respiration and circulation. Repeated experiments have shown that nine-tenths of the animal heat may be explained accurately by the quantity of oxygen which disappears, and by the formation of water and carbonic acid in the lung. The red-blooded and warm-blooded animals are those whose temperature is highest. The capacity of the thoracic cavity and of the pulmonary organs is greater in them than in any of the other classes of animals. Birds whose cellular lungs are continued into the abdomen, and into the principal parts of their skeleton, develop more heat than man and mammiferous animals. The latter again enjoy a temperature much superior to that of reptiles and fishes, whose heart has but one ventricle, whose lungs are very imperfect, and which can bear the privation of atmospheric air for a longer time. The more frequent the respiration and the more rapid the circulation is, the more heat is there developed. We

may now consider what takes place in the different climates with respect to the activity of those functions.

In cold countries, and during Winter, the respiration instead of being accelerated, as some authors have stated, is perceptibly retarded; but a greater quantity of oxygen is absorbed, a more electrical and less rarified air enters the lungs. The result of this is a more considerable disengagement of caloric. A portion of this caloric is given off with the respired air; the other portion is carried with the arterial blood into the torrent of the circulation in order to be distributed to the several organs. In cold countries the necessity of great exercise and of repeated movements is felt; the physical action of the friction of the parts one against the other causes the development of caloric. Besides, exercise accelerates the circulation and respiration; the repeated aspirations of air renew more frequently the phenomenon of hematosiis; these become so many new causes of an increase of animal heat.

Digestion also serves, though in a lower degree, to keep up the equality of temperature observed in the human body. Tonic and stimulating substances, all those which contain rich animalizing principles, develop a large amount of caloric. The same may be said of the use of spirituous drinks taken in moderation. It is observed that people residing in northern latitudes are great eaters, that succulent food agrees better with them, whilst those residing in southern latitudes have more appetite for vegetable diet, for sweet acidulated fruits which require less digestive power, and develop but a slight degree of caloric. Nutrition is the end and object of all the functions, and its perfect accomplishment proves their integrity. The assimilation of the chylous fluid, which circulates with the arterial blood, disengages in passing from the liquid to the solid state a quantity of heat which is constantly acting, and which penetrates the interstices of all the organs. Our author having thus far considered the subject of animal heat, next proceeds to enumerate the different kinds of food used by the different nations of the known world. These, as being matters with which our readers are already sufficiently well acquainted, we shall pass over, and proceed to the functions of respiration and circulation. He here observes that, notwithstanding the constant uniformity of atmospheric air under all latitudes, with respect to chemical composition, its physical qualities are extremely variable. Cold renders the air more dense: the introduction of a greater quantity of this fluid into the lungs stimulates the functions of these organs, and also increase their capacity. By a contrary action the chest of southern nations attains less expansion. He here notices the greater quickness of pulse in persons residing between the Tropics, as stated by some travellers—this increased frequency of pulse however in intertropical climates has not been observed by modern observers. On the function of *absorption*, which forms the subject of the 4th chapter of this work, he remarks that it becomes more active according as the system stands more in need of reparation; women and children absorb with more activity and energy than adult and old men: atmospheric pressure, caloric, electricity, sleep and rest, also seem to increase the energy of this function. An empty state of the vessels, hunger, thirst, fatigue, and debility, act in the same way; parts denuded of the cuticle, and those parts where the cuticle is very thin, also possess increased absorbing powers. In this way, says our author, we may more readily ex-

plain how a person enfeebled by debauchery, fatigue and loss of sleep, is more liable to catch the venereal disease; and how individuals, exhausted by the same causes and by the debilitating effects of fear, are more exposed to the action of contagion. Hence in those countries where those destructive epidemics prevail, the necessity of preserving calmness and serenity of mind, and of avoiding all those excesses which may tend in any way to dissipate the strength. Our author next considers the secretions; those two only, however, which are influenced by climate, viz., the cutaneous transpiration and the urine. After detailing the experiments of Sanctorius on the cutaneous exhalation, with which and with the results of which our readers are already acquainted, he remarks that the cutaneous transpiration undergoes from the effect of temperature more considerable variations than the pulmonary transpiration, it being even probable that the one is destined to replace the other. This close correspondence will account for the frequency of pulmonary diseases occasioned by the impressions of cold made on the surface of the skin. There is one case however where the cutaneous and pulmonary transpiration are simultaneously very profuse, namely, after violent bodily exertion, which accelerates the respiration and circulation at one and the same time. According to Sanctorius the insensible transpiration is more copious at night than by day; he estimates the quantity of serum which a healthy man loses by night in seven hours' sleep, at fifty ounces. The experiments of Keil and Gorter go to prove however, that this loss does not exceed sixteen ounces, and that in Holland and England it is greater by day than by night. All observers agree in stating that a profound and tranquil sleep facilitates this function, whilst it is interrupted by a restless and sleepless night. The cutaneous exhalation diminishes when the stomach is empty, or when it is too full; substances easy of digestion render the respiration easy; generous wine used moderately favours the functions of the stomach and skin. Our author mentions that he has known a great number of persons, in general in the class of hypochondriacal and hysterical subjects, in whom all the excretions were scanty, whose skin, constantly dry and parched, appeared incapable of perspiring. In these persons, who by the way were usually valetudinarians, the pulmonary transpiration was extremely active. The breath of such persons contracts a peculiar odour, which, though not always fetid, imparts deleterious qualities to the air of the apartments, and renders their habitations insalubrious.

Our author having considered in the *first part* of his work the organic modifications which man undergoes under the influence of different climates, now comes to consider the effects of this influence on health. This part he prefaces by some general considerations. He first considers the opinion of the ancient philosophers with respect to the origin of diseases. They would have it that diseases were in a great measure the result of luxury and of those artificial wants created in the state of society. Though there certainly is some truth in this, yet to a close observer it must appear manifest that diseases are the inevitable consequence of our organization. Physical sensibility is the source, the result, and the condition of life. This great function is constantly supported by external agents, and becomes extinct, when deprived of them. Without air, heat, and aliment, the organs become changed, sensibility is destroyed, and the individual dies. If this privation is not total, if the natural composition of those agents is only altered or modified, life

may not be destroyed, and may still be dragged on in a languid state. The faculty of perceiving agreeable or painful impressions is one and the same, and when beings sensible to pleasure were created, these same beings were also subject to suffering.

As a further proof that diseases are not solely attributable to the refinements and luxuries of civilized society, he adduces instances of several tribes of savage nations, as also of some species of the lower animals, among which diseases, and chiefly diseases of an epidemic character, prevail. In the sultry climates of Asia and Africa, where the absence of social institutions retains man in a state of eternal infancy, the mortality is more terrific than even in the midst of civilized Europe. It is evident however that there are less connate infirmities among savage nations. But whilst it is admitted that original mal-formations which depend almost all on a scrofulous taint; are more frequent in civilized countries, it should be recollected that in savage nations every malformed child is quickly destroyed and thus prevented from forming a part of society. If the progress of civilization has extended the field of disease by affording an unrestrained course to a thousand inordinate passions, we should recollect on the other hand, that we are indebted for the greatest blessings to the advancement of science, and more especially that of medicine. The former ravages of epidemics among us are now considerably mitigated. The application of the precepts of hygiene, by drying up the sources of infection, has rendered certain diseases less frequent and less fatal.

With respect to the etiology of diseases, they were attributed in the infancy of society to the anger of the gods; superstitious man endeavoured to appease them by sacrifices and expiations. Thus the priests who were regarded as the depositaries of the divine power, were also the first physicians. Though in the hands of such practitioners nothing but expiatory offerings and magic forms of words met the vulgar eye in the treatment of disease, still those medicinal and hygienic resources, either suggested by the instinct of the patients, or sanctioned by the authority of experience, were by no means neglected. Thus we see that among the Hebrews faith alone, or mere words, or the imposition of hands, did not suffice for the cure of leprosy; Moses was careful also to prescribe the most judicious regimen and that which best suited the nature of the climate. Elyseus cured the Syrian general Naaman by making him bathe in the waters of the Jordan. The soothsayer Melampus cured Iphiclus of impotence by the oxide of iron. Sobriety, continence, and gymnastic exercises, which comprised the therapeutics of Pythagoras, were more effectual in the treatment of disease than the sacrifices and other superstitious observances. Hippocrates, alluding to a disease somewhat prevalent among the Scythians and which they regarded as a punishment from the Deity, observes, that this disease was just as divine as others; all diseases have a natural cause; this cause, no doubt, oftentimes escapes us, and even though by close observation we may succeed in discovering it, we cannot always discover the connexion between the cause and the effect.

Etiology is confessedly one of the most useful and instructive studies in which a physician can engage, as it is on it the most solid foundations of therapeutics rest, as also the most positive and most important notions of hygiene. One of the best attested and most general influences is that exercised by climate on the production of diseases and on their different phases.

We now come to that part of his work where the author considers the *diseases of cold climates*. The most general effect of cold is to diminish the size of bodies by approximating their molecules. When applied to the animal economy it contracts the skin, drives towards the centre those fluids which the organ of circulation projected to the periphery. The cutaneous exhalation becomes less copious, rather in consequence of the density of the air, than of its low temperature. The pulmonary transpiration replaces it, and compensates the want of activity of the cutaneous functions. The atmosphere of northern regions is more dense, and more electrical; a greater quantity of air is introduced under the same volume into the respiratory organ, and so yields more oxygen and more heat to the blood and to the entire system. When the cold is too intense, the vital reaction being insufficient, the lungs absorb but a very small quantity of oxygen for the support of life. When this occurs, the venous blood, no longer converted into arterial blood by the contact of the air, penetrates the brain, ceases to stimulate it, the interruption of the functions of the sensitive centre causes the action of the heart and the function of respiration to cease, and life becomes extinct. One of the most constant effects of cold is a treacherous sleep, the fore-runner of death. The cold more particularly affects those organs placed at the periphery of the body, and which are more removed from the centre of circulation. By constringing the ultimate vascular ramifications it drives the blood chiefly to the head. Most of the persons who fall victims to intense cold die apoplectic, the vessels of the brain being usually found gorged with venous blood. In the same way we may account for the long-continued sleep of the inhabitants of northern countries, and the comatose and lethargic affections so frequent among them, and the violent headaches to which we are told by Linnæus the Laplanders are subject. It is unnecessary here to dwell on the chapped skin, those affections of the hands and feet, called chilblains, which are not unfrequent among us, even during our comparatively mild Winters, but are more general and more severe in northern countries; very frequent instances occur amongst them of gangrene occasioned by cold, the nose, ears, fingers, toes, feet, hands, and sometimes entire limbs becoming sphacelated. It has been already stated that the cutaneous transpiration is considerably diminished during Winter, and that the pulmonary transpiration replaces it in northern climates. Hence, from the well-known physiological law, that the more excited an organ is, the more liable is it to disease, we shall not be surprised to find a great number of cases of angina, bronchitis, peripneumony, and pleurisy. The intestinal mucous membrane, which is less frequently excited, is seldom attacked with inflammation. We cannot help saying that we were not a little amused with a remark of our author's here, which is, that "it sometimes happens that the pulmonary exhalation scarcely arrives in the air-passages, when it is converted into a multitude of small icicles which irritate and lacerate the pulmonary mucous membrane." This is a morceau of pathology, which we really cannot swallow.

The eyes are no less exposed than the lungs to the terrible influence of cold. The snow which envelops the country on every side for several months in Russia, Norway, and Poland, the sharp winds from the frozen ocean which strike directly on the palpebral mucous membrane, the dense smoke which prevails in the dens of the Laplanders and Esquimaux; the sand from the deserts of Siberia which is wafted to and fro' in the air, occa-

sions ophthalmias, which, in the north of Asia, of Europe, and of America, attack not only individuals, but whole nations. Thus all the Laplanders are remarked for having red, swollen and ulcerated eye-lids; they can scarcely endure the light of day, and generally walk with one hand placed at the lower part of the forehead, so as to avoid the impression of the solar rays. Amaurosis and cataract are very common in Russia, Poland, and all northern countries.

When we consider that the sanguineous temperament, an irritable constitution, the abuse of alcoholic liquors, and the prolonged application of cold and moisture combined, are the causes most calculated to produce rheumatic affections, we shall not be surprised at finding that these diseases do prevail very generally in almost all northern countries.

Notwithstanding the filthy habits of the Polar nations, who, at the approach of their long Winter, bury themselves in their subterraneous habitations with their families, their dogs, and their reindeer; notwithstanding also the bad quality of their food and drink, and the oil and fats with which they rub their bodies, cutaneous diseases are not so numerous among them as in warm climates, which is to be attributed no doubt to the little excitement and vitality of the skin. It is an observation worthy of being remembered, that when the diseases of equatorial regions spread into cold countries, they sometimes make great havoc there, and are much more difficult of cure than in warm climates. Small-pox sometimes assumes an epidemic form in those cold countries, and then proves a terrible scourge. In fact it is to its malignity that the depopulation of Greenland and of Kamschatka has been in a great measure attributed. Epilepsy and hypochondriasis, according to some travellers, are not uncommon among the inhabitants of the Polar regions; thus, whilst the Laplanders have their feelings blunted and well-nigh obliterated, whilst the savages of North America, insensible to physical pain, mutilate themselves and shed their blood amidst shouts of boisterous joy, these same individuals, timid and pusillanimous, fall, it is said, into violent convulsive fits on the slightest impression made on them, at the least unexpected noise. The women of Kamschatka, Lapland, and Iceland, are subject during the menstrual period to hysterical and other nervous affections. Civilization has introduced into the countries of the North no less nervous diseases than into temperate climates. They are very frequent in Russia, Poland, and Sweden. Denmark is one of the European nations where suicide, that moral distemper of civilized states, reckons the largest number of victims.

The combination of cold and moisture is, of all atmospheric conditions, that which exercises the most fatal influence on the system. It is to the influence of this cause we must attribute scrofula and all those chronic diseases which, under a variety of forms, affect the lymphatic system. Scrofula has become according to our author more frequent and of a worse character since the appearance of syphilis. The latter disease has now spread very extensively over both the high and low classes in Russia, Sweden, and over the northern parts of Asia. There are few countries where one meets with more persons without noses than in Poland.

Plica, a disease which prevails endemically in Poland and in some parts of Russia, our author considers to be a particular form of scrofula, which is often preceded by symptoms of articular rheumatism; the repercussion of

this disease has been frequently followed by the most disastrous consequences, as apoplexy, phthisis pulmonalis, epilepsy, caries ossium, and amaurosis. Its treatment is the same as that of scrofulous diseases in general, sudorifics, depuratives, and antiscorbutic remedies, seconded by strict attention to hygienic rules, without which no treatment is of any avail. Having now enumerated the principal diseases to which the inhabitants of the northern climates are obnoxious, he makes one remark which, as being of practical importance, we extract in our author's own words: "The lymphatic and muscular constitutions of the North are less sensible to stimulants of every kind, whether internal or external: from this less degree of susceptibility results the necessity of employing more active remedies and larger doses of these remedies. In Russia, Spanish pepper mixed with brandy is regarded among the lower classes as a universal panacea. Hellebore and aconite also enjoy a high reputation. Opium, cicuta, belladonna, tartar emetic, and quinine, produce their effects more slowly, and less characteristically than in temperate climates." To these general observations, however, there are numerous exceptions. We shall now follow our author in his observations on the diseases of hot climates. After noticing the effects of caloric on bodies in general, he remarks that the animal economy also, though withdrawn from the dominion of physical agents by the vital principle, still receives certain modifications from their influence. Thus, under the agency of an elevated temperature, the motion of expansion from the centre to the circumference being further aided by the diminished density and consequently diminished pressure of the surrounding atmosphere, all the fluids of the body are attracted towards the skin. This organ is penetrated by more numerous as also by larger branches of the lymphatic, sanguineous and nervous structures; this increase of vitality, sensibility, and exhalation renders skin diseases more severe and more numerous.

In warm climates, the air being rarer and more expanded, the lungs absorb less of oxygen. The proportions of the venous system will thus preponderate over those of the arterial; the liver also, whose business is to remove hydrogen from the blood, will become very active. The bile will be secreted in greater abundance, and the system of the vena portæ will become more developed. The result of this excess of action and of vitality will be an increase of disease, as well in the structure as in the functions of the biliary apparatus. Nor is this stimulating influence of heat and light confined merely to the skin; they also excite the brain and nervous system. It may be observed also that though heat by relaxing the tissues disposes to repose, and keeps the senses in a state of languor and dullness, still persons sleep less in warm climates; this privation of refreshing sleep our author considers to be one of the causes which renders cerebral diseases and idiopathic nervous affections in general more numerous and more severe.

Under the Tropics only two seasons are known: the hot and the rainy season; in the latter, which lasts about three months and in which the temperature is considerably diminished, pulmonary catarrhs, pleurisies and peripneumonies, soon followed by hepatization of the lung, are very prevalent. These inflammations are occasionally followed by pulmonary phthisis, which though by no means so common here as in the temperate climates of Europe, yet is occasionally observed in the Antilles and under the Equator, where it assumes a very acute and rapidly fatal character.

Small-pox derives its origin from the hot climates of Arabia, Abyssinia, and Ethiopia, where it is endemic. Measles has the same origin. Lepra, the most formidable of all cutaneous diseases, derived its birth from the burning regions of Arabia, Syria and Egypt.

Our author ventures an opinion here on the nature of lepra: he thinks it not improbable that it is a scrofulous degenerescence occasioned by climate; this view of the matter he conceives to be strengthened by the fact that the constitution where the lymphatic system predominates is that most obnoxious to it. Elephantiasis, which is a very rare disease in temperate climates, is endemic in hot countries. It is very common among the negroes. All parts of the body may be affected with it; it is more usually seated however in the extremities and chiefly in the lower extremities. The Indians, as a cure for this disease, cut up into small bits a species of lizard called by them anolis, and swallow three of these reptiles in the raw state every morning, till they are perfectly cured.—the next disease noticed by our author is one called *pians*, which consists of tubercles resembling the large pustules of small-pox. This is considered by some as one of the most formidable varieties of syphilis. It is not only propagated by hereditary transmission, but even the mere momentary contact of a person labouring under it is sufficient to communicate it, or even touching any object which belonged to him. Mercury, sudorifics, and arsenical preparations are the remedies found to be most successful in its treatment.

Hepatic disease from the excited state of the liver, gastro-enteritis and dysentery from repercussion of the cutaneous transpiration and the immoderate use of fruit, are very prevalent in hot climates. It is unnecessary here to follow our author in his descriptions of cholera and of the yellow fever, so prevalent in those climates. The constant excitement of the nervous system, the putrefaction of animal and vegetable substances, assisted by the burning influence of a tropical sun, very commonly occasion cerebral diseases in different forms, as also those fevers called putrid or adynamic, malignant or ataxic. Intermittent fevers, whether of a simple character or complicated with some gastric or hepatic affection, are so common in those climates that they become associated with all diseases in their different stages, and assume all characters and all types. Neuroses of every species and of the worst character, such as cramps, convulsions, tetanus, epilepsy, hysteria, hypochondriasis, catalepsy, paralysis, etc. are of very frequent occurrence in tropical climates. Exposure to the atmosphere when cooled, is particularly fatal to children, and gives rise to fatal convulsions, trismus and tetanus. Acute diseases we often see ushered in by violent convulsive paroxysms.

Dropsy, in its various forms, occurs with considerable frequency under the tropics. This disease may be occasioned by the humid state of the atmosphere, in our author's opinion, or by the vegetable and relaxing quality of the food, or what appears to us more probable, by obstructions in the liver or the abdominal viscera. Scurvy, though it exercises its ravages chiefly in cold climates, does not however entirely spare the equatorial regions. It is said to be so frequent in the Antilles that there are some constitutions there decidedly scorbutic. When concluding this part of his work our author remarks that the treatment required for these extraordinary diseases of hot climates must be prompt and energetic as the diseases themselves; that bloodletting, so useful in other places, is seldom indicated or efficacious in

tropical countries, even at the onset of acute diseases, and that tonics are in general very salutary. In the most formidable diseases of the skin, he says that in those cases where the resources of art are not entirely powerless, it is from hygiene that the best curative means are to be derived. The juices of plants, wholesome diet, from which fish, eggs, and salted meat are excluded, baths, and attention to cleanliness succeed more frequently than pharmaceutical remedies. Convulsive diseases and intermittent fevers call for prompt as well as strong doses of sulphate of quinine. Camphor, sal ammoniac, tartar emetic, and large blisters are also employed with advantage. The avoidance of excess at table, as also of those enervating indulgences so much practised in hot countries, guarding against the noxious influence of exposure to the cold and humidity of the night air, as well as removal from the mischievous effects produced by the decomposition of animal and vegetable substances, are most imperatively enjoined by the author.

In chap. 7, where he treats the subject of mortality, our author makes some curious and not uninteresting remarks; and first, with respect to children dead-born he says, that the ratio of the dead-born to the births is but very imperfectly known, as it varies prodigiously, according to the different climates: thus there is one death to 19 births in Paris, one to 20 at Berlin, one to 24 at Vienna, one to 27 in London, one to 36 at Stockholm. The mean or average for all Europe is one to 22. The number of dead-born is greater in Winter than during the other seasons, in cities than in the country, and three times greater in illegitimate births. Our author here mentions a very surprising fact with respect to the number of dead-born in both sexes; it is that the mortality is greater among boys than among girls; this law has been found to hold good throughout every country in Europe, the relative numbers being 13 and 10. The mortality is found to be less, generally speaking, in temperate climates than in those where the temperature is in the extreme. England he finds to be the country where the mortality is least, there being one birth to thirty-five inhabitants, and only one death to fifty-eight.

From the researches of statistical writers, it appears that all over Europe the maximum of deaths occurs towards the close of Winter and the minimum towards the close of Summer. With respect to the *mean duration of life*, it was in France before the revolution twenty-eight years nine months; it is calculated to be thirty-two years and a half. In England it is thirty-three years. Death carries off a great number of children of both sexes at a premature age; the tenth perishes a month after birth; a fourth is carried off after the first year; a third at the end of the second; there scarcely remains one-half at the end of twenty years. Our author very justly attributes the increase in the average duration of life to the introduction of vaccination. With respect to the *probabilities of life*, our author observes that the chances of death are not the same for both sexes at different ages. During the first, and even the second year after birth, more boys die than girls; then the number of deaths in the two sexes becomes equal till the period of puberty. Then more females die than males; the number of the latter preponderates at the age when violent passions prevail, viz. between the age of twenty and thirty. At no period of life, with the exception of the year after birth, is there such great mortality. The turn of life is fatal to

some women; but this epoch once safely passed, their health becomes confirmed so as to resist the incroachments of disease for a considerable number of years. They attain a considerable old age more generally than men; yet there are not so many centenarians found among them. The remaining part of the author's work consists of some sections on the art of prolonging life; some observations on the influence of climate on the morals, &c. As there does not appear much that is novel in these chapters, we shall close our analysis here.

THE CYCLOPÆDIA OF PRACTICAL SURGERY, COMPRISING A SERIES OF ORIGINAL DISSERTATIONS ON OPERATIVE MEDICINE. By an Association of Physicians and Surgeons. Edited by *William B. Costello, M.D.*, Member of several learned Societies, National and Foreign. Part III. Illustrated with Woodcuts. Price Five Shillings, July 1838.

THE part before us of the Cyclopædia of Practical Surgery is equal, indeed superior, to either of its predecessors. Rich both in matter and in illustrations, it offers a favourable sample of the work.

Its contents are:—

Aneurysm, by James Wardrop, M.D.—Aneurysm, local, by Wm. B. Costello, M.D.—Angeioleucitis, by Alf. M. Velpeau, M.D.—Ankle, by Claudius Tarral, M.D.—Ankyloblepharon, by P. T. Dieffenbach.—Ankyloglossum by Ernst Dieffenbach.—Ankylosis, by John Blackburn, A.M.—Supplement, by W. J. Little, M.D.

I. ANEURYSM.

The article on aneurism by Dr. Wardrop is carefully written. It explains the changes which constitute the disease, the history of the operations undertaken for its removal, the effects which such operation produce, and the principles which should guide us in our treatment of the disease. Among other subjects Dr. Wardrop naturally dwells on the operation *ultra tumorem*, and, perhaps, may look on it with too parental an eye. Be that as it may, the whole article deserves perusal, and it is only the necessary familiarity which our readers must have with many of its details, which prevents us from offering a sketch of it.

But there are a few observations on the *mode of applying the ligature*, which we will take the opportunity of quoting.

In cutting down upon the artery, says Dr. Wardrop, the precise length of the incision in the integuments, after mature consideration, ought to be marked with ink. The length of the incision ought to be regulated according as the vessel may be more or less deeply situated, recollecting that the facility of the future dissection depends very much on a free incision having

been made through the skin. The direction of the incision should not be exactly parallel with the line of the artery, but should cross it at an acute angle. This direction of the incision gives the operator the certainty of exposing the artery at one point of his incision; for if it be made parallel to the vessel, a difficulty may arise when the incision does not exactly fall upon the trajet of the vessel. The artery should, of course, be as little denuded as possible.

"This mode of dividing the integuments," continues our author, "offers essential advantages, not only in facilitating the future steps of the operation, but in affording the certainty of denuding the artery at one point, and only at that point where it is desirable the ligature should be applied. For if the operation be executed strictly according to this principle, the cellular sheath of the vessel will be exposed only to such an extent as to facilitate making an opening into it merely sufficient to admit the transit of a small needle for conducting the ligature round the vessel. The safety and success of the operation may indeed be justly said to depend on the ligature being applied without much disturbance to the soft parts contiguous to the artery, and likewise in the facility by which the needle is passed around it; and I am convinced that even the most experienced operators will find decided advantage in performing this operation, by adopting the oblique incision of the integuments which I have now recommended instead of following the ordinary method of dividing the skin immediately above, and in a line parallel to the trajet of the artery; a practice which I am of opinion it will be better to avoid, even when operating on superficial arteries. 242.

We would observe that this plan is not so universally applicable as Dr. Wardrop would seem to imply. It may be advantageous in operating on superficial arteries, like the radial or the ulnar; in some cases it may be, and it generally is, adopted in operating on deeper vessels, as on the femoral, where the incision, following the course of the Sartorius, cuts the artery at an acute angle: it may be applicable to the carotid above the omohyoideus; but, in the majority of instances, the course of the incision is determined by the course of muscles, the position of tendons, and the constitution of the spaces in which the arteries lie. Take, for instance, the operations on the subclavian—on the iliac—on the tibial—on the brachial vessels. The modern anatomists, and especially Cruveilhier, are particular in insisting on an acquaintance with the direction and the localization of the satellite muscles to the respective arteries. The Sartorius, for instance, is the satellite to the femoral—the biceps to the brachial—the sterno-thyroid to the carotid, &c. These muscles form the guides to the vessels, and these should be always more or less sought for.

"The advantages," continues Dr. Wardrop, "of marking the line of the incision with ink, before commencing an operation, should not be lost sight of, particularly in that of placing a ligature upon an artery. It frequently happens, that, from the external incision not being of sufficient extent, the subsequent dissection is retarded, and it becomes necessary to extend the division of the skin, an inconvenience which can always be avoided by duly considering and marking the length of the incision beforehand." 242.

No doubt this would be advantageous. But unless it is generally done, the surgeon who does it is exposed to observation, and may become the subject of ill-natured jokes.

in the article on Local Aneurysms, and in that part of it in which he treats of the operation for femoral aneurysm, examines this vexata quæstio. As our readers indeed should be aware of the facts, and as the history of the operations for aneurysm is really interesting and instructive, we shall quote it from the researches of the editor of the Cyclopædia.

Lisfrance shows that the first known method for the treatment of aneurysm has been entirely overlooked by every writer on the history of this affection. This method belongs to Rufus, and is thus described by Ætius: *Si vas unde emanat sanguis profundum fuerit . . . ubi situm ejus et magnitudinem diligenter perspexeris, noverisque numquid vena sit an arteria, VAS IMMISSA VOLSELLA EXTENDEMUS, ET MODERATE CIRCUMFLECTEMUS. Ac ubi ne sic quidem cessaverit vinculo constringemus; nonnunquam et post vinculi necum oblique vas incidere cogimur.* As Mr. Costello justly remarks, this quotation proves, that not only was the idea of employing the simple ligature then known, but even that the torsion of the vessel, which has been of late years described as an invention of modern surgery, was then recommended.

Ætius himself, continues Mr. C., describes another method, which he put in practice for aneurysm at the bend of the arm. He discovered the artery at four fingers' breadth below the axilla, and applying two ligatures, he then cut the vessel across between them; he next emptied the aneurysmal sac completely, and tied the artery at this point *sicut priorem*, an expression which, according to the interpretation of M. Dézeimiris, seems to say that he also applied two ligatures upon the artery below the tumor.

Paul of Egina's method of treating spontaneous aneurysm, *si ex arteria dilatata tumor obvenierit*, was to expose the vessel by a longitudinal incision, and by means of a needle, press a double ligature under it, previously plunging a bistouri into the tumor. Though the text is somewhat obscure, it may very naturally be supposed that the ligatures were placed above and below the tumor, and that the sac was opened between them. Here then, observes Lisfranc, is a proof that the method chiefly followed during the 18th century, may be traced back to Paul of Egina. And very probably what Paul wrote others had done. But to proceed.

Avicenna mentions the simple ligature for the wounds of arteries, judiciously recommending that it should be applied between the wound and the heart; and adds, that if the blood should issue from the inferior portion of the wounded vessel, a second ligature should be applied. The only difference between Avicenna's and the modern practice is this:—that generalising on the facts that have been accumulated, and seeing that hæmorrhage very frequently *does* occur sooner or later from the inferior orifice, we, in all cases where it is possible, tie the artery above and below the wound in the first instance. Mr. Costello goes on to state:—

“Paré, speaking of an aneurism near the shoulder-joint, which had been imprudently opened by a barber, gives the following advice: “Partant je conseille au jeune chirurgien, qu'il se garde d'ouvrir les aneurismes, si elles ne sont fort petites, et en parties non dangereuses, coupant le cuir au dessus, le separant de l'artere; puis on passera une esguille á seton, enfilée d'un fort fil, par sous l'artère aux deux costés de la plaie, laissant tomber le filet do soy-même, et ce faisant, nature engendre chair qui sera cause de boucher l'artère.”

Guillemeau, a pupil of Paré, give an account, in the following words, of the operation he performed on the son of M. Belleville: ‘Auquel après une saignée faite au ply du bras, lui était survenu un petit aneurisme, qui par succession de

temps était accru de la grosseur du poing, auquel enfin le sang contenu en iceluy se groumela ; ce qui fut cause d'engendrer quelque commencement de pourriture en ladite tumeur, comme il s'aperçut par le cuir qui avait changé sa naïfve couleur en noirceur et lividité, *estant même altéré et ouvert* ; pour à quoi obvier et au grand flux de sang principalement qui s'en pourrait suivre, avec deperdition d'esprits, si l'ouverture se faisait plus ample, je proposai aux médecins et aux chirurgiens le seul remède pour obvier à ce mal, qui était de lier l'artère plus haut que l'aneurisme qui était au ply du bras, à laquelle opinion enfin chaucun s'accorda. Premièrement je remarquai sur le cuir l'artère en la supérieure et intérieure partie de l'avant-bras, ainsi qu'elle descend de l'aisselle au ply du bras, trois doigts au dessus d'icelui ; et en cette même partie suivant ce que j'avais remarqué, je fis une légère incision en long au cuir, qui était comme séparé à l'endroit de l'artère où elle se rencontre au toucher, et l'ayant ainsi découverte, passai par dessous avec une grosse esguille courbe une petite fisselle desliée, puis avec icelle fisselle je liai ladite artère à double nœud. Cela fait, tout le sang groumelé et autre caillé contenu en la tumeur fut ôté, puis les parois de la tumeur furent lavées avec eau-de-vie à laquelle j'avais fait dissoudre un peu d'Egyptiac pour corriger la pourriture, ja commencée en cette partie ; un mois après le malade fut parfaitement guéri sans être aucunement estropié ; de quoi j'ai été infiniment esmerveille.

The operation which Anel performed a century later, differed from Guillemeau's only in regard to the sac being left untouched ; but in both the ligature was placed on the vessel just above the sac, and it appears that Guillemau did not by any means consider the emptying of the sac as an essential step of his operation, since he adds to his description of it, ' Si en quelque autre partie extérieure il se présente au chirurgien pareil aneurisme, il peut sûrement découvrir le corps de l'artère vers sa racine et partie supérieure et la lier de même façon sans autre cérémonie.

Now on neither of these occasions was the principle involved in the Hunterian operation as much as hinted at. The surgeons of the 17th and 18th centuries did not possess that knowledge of the diseases of arteries, which might have led to the adoption of so important an improvement as that with which the name of Hunter is irrevocably identified. Nay, the case operated upon by Dessault in 1785, cannot even be quoted as an illustration of the principle for Dessault operated on the *popliteal* artery, just above the tumour, as did Guillemeau and Anel on the brachial artery. Hunter tied the *femoral* artery for popliteal aneurism. In so doing, his purpose was obvious : he was aware that the disease in the coats of the artery, upon which the formation of the aneurismal tumour depended, often extended for some distance along the vessel, and he therefore placed his ligature at a distance above the tumour, in order that it might bear upon a sound portion of the arterial trunk, well knowing that the contents of the aneurismal sac might be absorbed. The question therefore is not one of dates, but of facts, and the difference between the two modes of operating, which on one side have been gratuitously assumed to be identical, may be thus summed up : Anel's operation, performed at the beginning of the 18th century, preceded Hunter's by seventy years, led to no result, and was all but forgotten ; Hunter's led the way to some of the most brilliant achievements of surgery, and changed the whole practice of our art in regard to this particular class of diseases." 273.

Nothing can be more just than the preceding observations—nothing more illustrative of the value of sound principles. The absurdity of the attempt to rob John Hunter of the merit of revolutionizing the treatment of aneurysm is as palpable to unprejudiced minds as its failure. Guillemeau and Anel tied the vessel between the tumor and the heart, it is true. But they did so at random, without correct reasoning, without sound principle, with indifferent

success at the time, and with no effect upon science. To disinter their buried lucky or unlucky accidents, is an envious attempt to rob a great man of justly earned fame, and to nibble at his honest reputation. There is no great modern discovery, which, by a similar process, may not be made to appear an old tale. By a parity of reasoning whatever savage has arrived at the pitch of boiling a kettle, may be shewn to have been an inventor of the steam engine.

The execution of the whole of Mr. Costello's article is good, and the wood-cuts both numerous and excellent.

II. ANGEIOLEUCITIS.*

M. Velpeau, the author of this article, commences by observing that while inflammation of the veins has attracted great attention, that of the lymphatic tissue has been, comparatively neglected. He has long been satisfied of their pathological importance.

"My attention," he says, "has been devoted to this subject since 1818; and the various papers which I published at subsequent periods on the alterations of the fluids, are almost as strictly related to it as to the pathology on the veins; the only difference being this—that I had not, as I mean to do now, considered it separately, or in such a manner as to exclude collateral matter. The subject, however, even now, is too novel to admit of its being treated completely, and in all its details. I shall therefore confine myself to the points on which I think I shall be able to throw some light; and on that more especially, which relates to the inflammation of the lymphatic vessels, known under the names of *Lymphangitis*, *Lymphitis*, &c., and which I prefer designating by the term at the head of this article." 282.

M. Velpeau remarks that the lymphatic tissue is capable of becoming inflamed in various ways and degrees like the other tissues of the body. Inflammation of the lymphatics may rise from injuries from them or of their glands, but usually their diseases result from fluids, either produced or vitiated by inflammation, being introduced therein by absorption or imbibition, and carried from the periphery of the body to the centre.

As the absorbent canals abound in the midst of the organic layers of the body, it is obvious that they must surround and pass through every seat of disease, and that wherever disease exists, they may become charged with heterogeneous materials calculated to inflame them.

The inflammation of the lymphatic vessels presents two distinct varieties. In the one the seat of the morbid action, or the altered fluids that give rise to it, are protected from the contact of the air; in the other, on the contrary, they are exposed to its action, either primitively or consecutively.

When, continues our author, there is no wound, ulcer, incrustation, or excoriation on the integuments, the altered molecules, modified by inflammation, or by any other morbid action, but rarely acquire properties as deleterious as those which in general characterize them, when deposited in

* From *ἀγγειον*, a vessel, and *λευκος*, white; inflammation des tissus blancs, Fr.; inflammation of the lymphatics.

deep wounds or solutions of continuity; and hence the possibility of their penetrating to some extent into the veins and the lymphatics, without exciting inflammation, or producing any manifest disturbance.

In opposite circumstances, he goes on to state, the contrary obtains; and to be convinced of the fact, we have only to bear in mind, how rapid and numerous are the changes which take place on the surfaces of wounds in all the products of inflammation, in all the substances either taken into or ejected from the body; and that by reacting on each other, under the influence of the air, their elements are transformed, sometimes into new products, comparable in certain cases to real poisons. In becoming fluid, these substances are more in contact with the pores or extremities of divided vessels, and are thus rendered in general, more acrid and penetrating. It seems but natural therefore, that they should obtain an easier access to the torrent of the circulation, and that they should irritate the vessels more highly than in the preceding hypothesis.

"Angioloecitis may be developed in three different ways: 1. *By continuity of tissue*, or from the external to the internal surface of the canal. In this case the lymphatic vessels that pass through inflamed organs at length become themselves inflamed at the point corresponding to those organs before they exhibit any trace of disease elsewhere. 2. *By obstruction*, or disturbance of their circulation. In this case they are so compressed in the midst of the diseased tissues, that they become inflamed below this point, in consequence of the distention resulting from the stoppage of their circulation; and 3. *By absorption*, or from within outwards. That is, when either, through their lateral pores, or their roots, they take up, in the affected parts, irritating principles in sufficient quantity to determine an inflammation, in the same manner as it occurs in the veins, or when the mischief has its source in a collection seated in the integuments.

In this last case, the inflammation of the lymphatics may also exist in three ways. 1. *By continuity*, or as it takes place in membranous organs; in which case, the inflammation, proceeding from the wound, attacks the lymphatic vessels and seems to be rapidly carried towards their origin or termination, without their becoming of necessity on that account previously charged with the morbid products. 2. *By internal irritation* or by *infection*: that is to say, that those of their mouths or roots, that are enveloped in the diseased locality, becoming charged with heterogeneous molecules, are rendered incapable of bearing the contact of such substances with impunity, and become inflamed secondarily, from the internal to the external surface in one or more points of this course. This is unquestionably the mode in which angioloecitis is produced in the majority of cases; but we must admit also, that it may proceed from the external to the internal surface, or 3. *By contiguity of tissue*, as in the case where the skin is perfectly entire and healthy." 281.

With regard to the first species of "angioloecitis," it seems almost sufficient to remark, that inflammation in general, wherever cellular tissue exists, is sufficient to give rise to it.

All kinds of solutions of continuity which either immediately or at a distance communicate with the atmosphere, morbid growths, &c., all conditions of the skin and mucous membrane that produce a morbid change in the fluids which the lymphatics imbibe, frequently determine the second kind of angioloecitis.

The causes of the affection act with greater energy, that is, it is more common, at puberty and in old age, than at other periods of life. In some cases, says M. Velpeau, there may be absorption to a considerable extent,

without producing any manifest bad consequences, whilst, in many others, a few molecules will be sufficient to determine the most intense and extensive inflammation. This peculiarity helps to explain why *angeioleucitis* is so uncommon, when compared with the frequency of the causes capable of producing it, in the inflammation or other affections not exposed to the action of the air, whilst the slightest puncture or abrasion, the most simple ulceration of the integuments, may quickly produce it. It will also be easily understood how certain relative positions of the orifices of the pores of the lymphatics, as regards deleterious principles, should favour in a particular manner their absorption; vivid moral impressions, a sudden disorder of the functions, in a word, any circumstance capable of subverting for a moment the vital or organic harmony, in parts beyond that which had been primitively attacked, are equally calculated to develop its defects.

M. Velpeau's account of inflammation of the superficial lymphatics is accurate, though diffuse. It is not necessary to lay it before the English reader, who is familiar enough with the characters of the complaint. His account, however, of inflammation of the deep-seated lymphatics will, probably, be new to most practitioners in this country.

"When the attack occurs first in the deep-seated lymphatic vessels, as sometimes happens in the case of wounds or ulcers that pass under the fasciæ, as also of contusion, inflammation, abscess, or ulcer, the symptoms assume a somewhat different character. It is the pain that first attracts notice. It is fixed in a particular spot, where it may remain for a considerable time; it is deep-seated sharp, or lancinating. If the mischief extends, the pain is soon felt in other regions, simultaneously or successively; and though it cannot be said to be positively absent in the interval separating the points in which it is most acutely felt, still it does not excite sufficient uneasiness to be much complained of. The pain is not radiated in lines from a given point, nor is it diffused, neither does it remit; it is a fixed pain, though disseminated over particular spots, varying in the degrees of its intensity at different points. The tumefaction comes on afterward, or it may occur almost at the same time, and in the same places as the pain. It proceeds, and is developed from the centre to the circumference. It is observed under the form of masses of more or less extent, of thick and long cores; but there is no appearance of patches, as in the case described already. Its origin is without difficulty recognised to be from beneath the fascia, and the tissues are less dense in proportion as they are nearer to the skin, which retains for a long time suppleness and a certain degree of mobility. Should the swelling become general, the first characters will nevertheless persist to some extent to the end; in the midst of the general tumefaction we can discover, here and there, points more swollen and perceptibly more dense than others. The redness only becomes manifest subsequently to the two preceding phenomena. It is less superficial than in the former variety, and can be only seen as it were by transparency in the shape of irregular patches, and not as streaks or bands. It would seem to be more intense and more extensive according as the eye pursued it to a greater depth. The skin moreover being stretched, and as it were thinned, is shining, and more of a whitish or pale rose colour, than truly red, in the intervals of the inflamed points. Generally speaking, it is the deep lymphatic ganglions that first swell and become painful. The inflammation proceeds so rapidly, and to such an extent, that the deep-seated variety of *angeioleucitis* has, in many cases more the appearance of inflammatory œdema, than that of a diffused phlegmon or of a phlegmonous erysipelas." 286.

We must confess that we are not quite satisfied of the absolute correctness of the preceding account. It seems to us that M. Velpeau has partly des-

cribed diffuse inflammation of the deep-seated cellular tissue, partly that of the deeper lymphatics. But to proceed. He remarks that the two varieties run into one another, and that they do not long remain perfectly distinct. The superficial and deep-seated glands almost invariably become affected in both cases.

M. Velpeau presents an explanation of the appearances and progress of the inflammation of the absorbents. He then gives an account of the general symptoms. But it is not necessary to follow him in his remarks.

Inflammation of the lymphatics may terminate in resolution, suppuration, induration, or death. Of the termination by resolution, it is not necessary to speak. Suppuration, says M. Velpeau, must be expected to supervene whenever the red patches are numerous, and have a tendency to run into each other, and when beneath them, painful cores of a certain thickness can be felt. The suppuration, however, takes place slowly, and is found in two different states, either in that of infiltration, or as a collection of variable extent. The pus remains infiltrated under the red streaks, along the vessels, and between the layers of muscles. The abscesses occur more particularly under the patches, and in such a manner that the principal inflamed nuclei form the centres of so many purulent collections. Sometimes, also, the abscess is large, and the matter is diffused as in the case of a phlegmonous erysipelas. But whether these abscesses be superficial or deep-seated, the fluctuation is not felt in them till an advanced period, and when opened, the quantity of pus which escapes is much more considerable than could have been expected from the apparent extent of the tumefaction. There is generally more than one, and the first collection is merely the precursor of several others, which occur in succession, at intervals of a few days, and at different points. M. Velpeau has seen as many as twenty-five in the same individual. They are surrounded, he continues, by a pasty, or hardened edge; but it does not remain so long as in the case of a common phlegmonous abscess. In the cavity, neither bands nor partitions can be detected, and although the pus contained is usually very fluent and thin, the secretion soon ceases, and the parts cicatrize rapidly.

The termination by induration, without suppuration is rather uncommon, and occurs almost exclusively in chronic angeioleucitis.

The complaint may terminate in death, either when the inflammation is at its height, or from prolonged suppuration. In the latter case the fatal issue may result from the exhaustion produced by profuse purulent secretion, from the occurrence of fresh attacks of the disease in the viscera, or from effusion into the serous cavities, and vitiation of the blood, by its mixture with the pus, or absorbed substances.

"On the whole," says M. Velpeau, "the progress and duration of angeioleucitis are extremely variable; in some instances, it is developed so rapidly that on the eighth day there can be no longer a doubt as to the formation of pus; in others, the progress is so slow, that even on the twentieth day, there is no saying with certainty how it will terminate. In some individuals its phases are perfectly regular from beginning to end, whilst in others, all the groups and symptoms are graduated and distributed as if they belonged to several distinct and successive inflammations. When resolution takes place, it may be looked for from the fourth to the tenth day. The suppuration may be established as early as the eighth day, but most commonly it does not become manifest until the fifteenth or twentieth. It is also from the eighth to the twentieth day, that death is observed

to take place. Beyond this period it seldom occurs till after the thirtieth or fortieth day, when induration may take place, and when internal collections, the contamination of the blood, and diarrhœa, are more especially to be feared." 288.

After some further observations on the circumstances that render angeioleucitis more formidable, or less so, M. Velpeau sums up by admitting that nothing can be more difficult than to generalize on the prognosis of the affection.

M. Velpeau proceeds to point out the distinctive marks of angeioleucitis and of other affections with which it may be and has been confounded—phlebitis, erysipelas, neuritis, phlegmonous erysipelas, and erythema nodosum.

Phlebitis. The red bands, observes our author, which indicate it are larger fewer, less frequently crossed, more deeply seated, and correspond to so many hard, round, moveable cords, which are painful, and sometimes as thick as the finger. The red patches, when any exist, rest on nuclei that are more clearly defined, less deep, and less adherent; and they seldom become united in such a manner as to constitute a tolerably regular erysipelas. The suppuration occurs more rapidly, and the abscesses thus formed are either diffused as in phlegmonous erysipelas, or less full of matter than might be supposed before they were opened. The pus evacuated from them in the latter case is often reddish, and seems as if it were mixed with decomposed blood. They are sometimes very numerous, but smaller; and they are almost always developed along the tracks of the large venous trunks, but not dispersed indifferently throughout the different regions of a limb. The tumefaction is, in general, less, and does not extend to the entire thickness, or to the whole circumference of the part, unless the phlebitis be deep-seated, and in that case, the redness of the skin, and the subcutaneous abscesses have no resemblance whatever to those produced by angeioleucitis. The skin is neither tense nor shining; it seems rather thickened, or simply inflamed. We cannot agree with M. Velpeau in the assertion that, in phlebitis, the skin is neither tense nor shining. The tension and gloss of the integument are merely accidental circumstances. They depend on deep-seated effusion which puts the skin upon the stretch, without any inflammation of the latter, or of the subcutaneous tissues. In general, adds M. Velpeau, the lymphatic glands are neither swollen nor painful in phlebitis.

The general symptoms of phlebitis are more of a typhoid, those of inflammation of the lymphatics, more of an active inflammatory type. But there are exceptions to this rule. Phlebitis is more prone to infect the constitution and give rise to the symptoms and consequences of the absorption of pus, than inflammation of the lymphatics is. We think M. Velpeau is right when he remarks, that—phlebitis, in a word, is formidable, more particularly from the kind of poisoning it causes, and by the facility it finds of extending itself towards the great vascular trunks: while angeioleucitis is infinitely more so, on account of the local disorders of a decidedly inflammatory nature that result from it. As a local inflammation, the former is very easy, the latter very difficult to check. As a general affection, the case will be exactly the reverse of this.

As phlebitis may supervene on angeioleucitis, or the latter on the former, and as the veins and absorbents are very analogous in structure and in func-

tions, no absolute line of distinction can, after all, be drawn between their inflammatory affections.

Neuritis. The symptoms of this and of angeioleucitis are so obviously different, that we think it quite unnecessary to enter on the diagnosis of the two.

Erysipelas. M. Velpeau observes that angeioleucitis is more frequently mistaken for erysipelas than for any other affection. This is chiefly because many surgeons confound, under the name of erysipelas, many different diseases.

Common erysipelas, he goes on to say, is neither preceded nor accompanied by red streaks, or tumefaction of the lymphatic ganglions. If the contrary should take place, it only so happens in consequence of the erysipelas being complicated with adenitis, or angeioleucitis. The inflammation in this case seems to proceed from the epiderm towards the deep-seated layers of the skin, and is not manifested in scattered patches. The sub-jacent swelling is equal, and simply subcutaneous, being neither deep-seated nor distributed in masses or cores. It extends by continuity of tissue, instead of bounding, as it were, from point to point, over different regions. The skin, and not the layer beneath it, is its primitive and specific seat. Its progress is much more rapid: the formidable symptoms, such as delirium, and dryness of the tongue, often appearing as early as the fourth or fifth day. It rarely terminates in suppuration or induration, and resolution takes place from the third to the eighth day. When death occurs, it can scarcely ever be attributed to the local mischief.

In erysipelas, he continues, the surface of the epiderm seems as if thickened and presents small vesicles, and sometimes even phlyctenæ of a certain size. It has a yellowish rosy hue, terminating abruptly at the limits of the disease, by an elevated and festooned edge; half a line beyond which, the slightest alteration of colour in either the skin or epiderm cannot be discerned, and it would seem as if the inflammation was shed over the derm like a layer of milk or oil. We see nothing of this kind in angeioleucitis,—the redness of which is bright or pale, or inclined to violet: it has no defined limits, but disappears insensibly, in such a manner, that it would be impossible to fix the line that separates the disease from the unaffected tissue. The skin may be thickened and elevated, but in general it is not covered, either with vesicles or phlyctenes at the commencement; nor does it present a surface in relief, as if it had been overlaid with another layer.

Phlegmonous erysipelas presents differences less strongly marked.

“At the outset, most commonly, the general symptoms are absent; the inflammation spreads gradually, leaving none of the parts unattacked through which it passes. It does not appear under the form of scattered patches, or indurated cores; neither is there any appearance of red or livid bands. The ganglions are not engorged, nor does it seem to be developed more along the trunks of the lymphatics, than elsewhere, although, like angeioleucitis, it appears to spread rather from the deep-seated tissues towards the surface, than from the epiderm towards the fasciæ. Suppuration takes place very rapidly, the collection being large and widely diffused, and the pus greyish and thin. The cellular tissue is extensively destroyed, and the integuments are so rapidly thinned as to be in danger of perishing also. If the inflammation has not attacked from the

beginning a considerable extent of surface, the febrile reaction will be, in general, trifling before the pus is formed.

The general symptoms are not of a nature to excite any serious alarm, till after the second period. We then have symptoms of infection, but which tend rather to adynamic than to the ataxic character. The skin becomes dull, soiled, and earthy; the tongue blackens, and the delirium is of a calmer kind." 290.

But the two diseases are frequently complicated with one another. This occurred to a remarkable extent in M. Velpeau's own wards, in the months of March, April, and May, 1837. Almost all the patients that had been affected with angeioloecitis were soon after attacked with erysipelas, strictly so called, or with phlegmonous erysipelas; and, in like manner, those who were first attacked with erysipelas, soon presented it complicated with angeioloecitis.

Of *Phlegmon* and *Erythema Nodosum* we do not think it necessary to speak.

It seems to us, from a perusal of M. Velpeau's observations that they are open to two criticisms:—first, he does not appear to be aware of the extent to which inflammation of the absorbents is understood in this country; secondly, we cannot help suspecting that he himself confounds to a certain degree diffuse inflammation of the *deep cellular membrane* with inflammation of the absorbent vessels. But however this may be, the present paper merits the attentive examination of surgeons.

Pathological Anatomy. Mr. Velpeau arranges the alterations that result from inflammation of the lymphatic vessels, under three heads:—the first is of the vessels themselves; the second takes place in the interposed tissues; the third must be sought for in the viscera, in blood, and in the remote regions.

When the absorbent vessels themselves can be successfully made out, their internal surface appears of a milky colour. On the outside, they are surrounded with cellular tissue, which is easily broken down, and more or less infiltrated with a turbid, half-concrete lymph; their parietes are evidently thickened: yet even still they may be permeable.

"The points most diseased are those which correspond to their crossings, and those opposite to their valves; it is at these points that their envelope is often found infiltrated with true pus, that they are closed, that lardaceous cores are observed, the same as in the centre of an abortive phlegmon, and that we must look for the origin of some of those abscesses, that have been observed during the progress of the disease. The skin, which is sometimes covered with large phlyctenes, presents towards the end scattered eschars, or mortified patches. These patches are greyish, or of a yellow white; they are softened, puffed, and in a state of purulent decomposition, or rather of gangrene,—their aspect bearing some analogy to the soft tenacious centre of the furuncle or anthrax. Beneath the integuments, the cellular tissue is found to possess a healthy character in some places; in others, it is more or less indurated, and, as it were, lardaceous, infiltrated with pus, or turbid serum, broken up by ulceration wherever purulent collections have taken place, and more or less thickened throughout. The fasciæ muscles, and nervous cords are but little altered, the disorders being confined chiefly to the interstitial cellular tissue. Between the muscles, around the vessels, in a word, wherever this tissue exists, it is infiltrated, hardened, thickened or destroyed, from space to space, in the same manner as we observe under the skin. When there is suppuration, the matter is found in circumscribed collec-

tions, rather than in sinuses, or canals; and, unless in a very rare case, no mortified tissue can be discovered beneath the fascia. The arteries and veins are sometimes thickened or increased in size: but in dissecting them, this appearance is found to depend on the thickening of their external layers, and on their vicinity to the larger lymphatic vessels.

If the disease has existed for any time, the blood is in general very fluent, abounding in serum of a reddish rather than a dark colour. The few coagula which are found in the nervous system are diffuent, and frequently mixed with yellow grains. When polypiform concretions are found in the arterial system they are also more pliable than those met within persons who die of diseases purely inflammatory; they are also less homogeneous, and they frequently present yellow, black, white, and red fasciculi. Pus, however, has not been found either in the ventricles or the great vascular trunks." 291.

Abscesses are rarely discovered in the great parenchymatous organs. But they or their serous membranes may be affected with the secondary inflammations. On the whole, sums up M. Velpeau, the internal lesions found after death are often very disproportionate to the symptoms observed during life. The same remark is not wholly inapplicable to the local lesions; for we often find that the traces of inflammation are slight where the angeioleucitis had appeared to be severe.

Treatment. M. Velpeau starts with a proposition which is almost self-evident, that, in order to appreciate the value of the various modes of treatment recommended for angeioleucitis, we must first have learnt to distinguish it from other affections, and its various shades from each other. We shall consider his recommendations seriatim.

1. "General bleeding, which is proper in the commencement when the patient is young and robust, and there is fever present, is useless when the reaction is slight; and generally hurtful, when the period of suppuration has arrived, and at all times in the majority of aged persons, or of those whose constitutions are worn out. Leeches applied in considerable numbers over the sites of the inflammation, are either useful or hurtful under similar circumstances. When applied towards the root of a limb, in the vicinity of the engorged ganglions, they will be often found sufficient, for this simple reason, that rest, regimen, and simple external applications will cure angeioleucitis in a vast number of cases, and when attacked in the first stage." 292.

The latter observation is perfectly true, indeed all the preceding directions are so. It may, we think, be very fairly stated, that one half of the remedial means we possess owe their supposed efficacy to the curative powers of Nature; that is, they are applied in cases which tend to get well of themselves. Certainly this explanation will fit a good many of the remedies for inflammation of the absorbents.

2. "Emollient poultices applied over the solutions of continuity, and compresses of the same kind over the erysipelatous streaks, which are the only proper topical applications, while the patient is kept to the antiphlogistic plan, are of themselves but of little value when the disease is deep and extensive. Purgatives, in the beginning, aggravate the mischief; they are useful only in the subsequent stages, and then merely as accessory means." 292.

Although we have seen pressure of service, we should be sorry to recommend it as indiscriminately as M. Velpeau seems to do. We are satisfied

that there are many cases in which it would be mischievous, nay, we have ourselves seen it so.

In M. Velpeau's remarks on purgatives we discern both the prejudice of the French school, and apparent inconsistency. Why purgatives should be useful in the latter stages, when the inflammation must have declined or terminated in suppuration, and useless in the early stage, when the inflammation is coming on or at its height, we profess ourselves unable to discover. As a matter of practice, and it is borne out by reason, we are sure that purgatives are very valuable in the onset of this, as of other inflammatory affections; indeed, judiciously administered, they are valuable throughout.

3. "I have tried blisters; when employed in the usual way, they are altogether incapable of extinguishing or stopping the inflammation. Their action, when applied over the prominent points of the indurated masses, is limited to the hastening, or determining the suppuration or the resolution, which till then seemed uncertain. When, on the other hand, I have employed them to an extent that would really seem monstrous, the effects produced have been almost miraculous. I am not afraid, for example, to envelop the whole limb, from the shoulder to the fingers, or from the groin to the knee, and from the knee to the toes. The general and local symptoms are, by this treatment, arrested so rapidly, that in a week or two, a resolution which could scarcely have been expected, is affected. This plan of treatment may justly be considered as heroic." 292.

We would observe, in reference to this, that inflammation of the absorbents being a complaint which in a very large proportion of cases tends to run a favourable course spontaneously, we should be chary of severe remedies. When the attack is really formidable, M. Velpeau's observation on blisters should be borne in mind. But this must not be forgotten:—the value of mercury, antimony, and so forth, not being appreciated on the Continent, such remedies as blisters obtain undue credit. They carry off in the shape of serum, fluids which we discharge by the bowels, and whilst our means of revulsion tell upon the liver, the skin, the alimentary canal with its appendages, our foreign confreres confine themselves from timidity to the more gross, severe, and often less efficient modes of depletion or cutaneous counter-irritation.

4. M. Velpeau justly observes that usually incisions are only necessary when suppuration has occurred

Passing over some other observations, we shall conclude by quoting the plan of management which M. Velpeau adopts and recommends.

"I subjoin the plan of treatment which has appeared to me to be the most successful. If any wound exist, whether it be recent or of long-standing, it is covered with a thick poultice: if there be any arterial reaction, recourse is had to general bleeding; the quantity abstracted to be somewhat considerable; to be followed up by the use of a tepid bath for an hour; twenty or thirty leeches are applied round the wound, when it appears red and swollen. After these means, compression with a roller will be of use; its action will be promoted by wetting it several times during the day with some resolvent fluid. Cold water perhaps would answer very well in this way. If compression is not followed by the desired effect, mercurial inunction is indicated. The plan I pursue is to have two drachms rubbed in three times in twenty-four hours, over the entire extent of, and a little beyond, the painful region. When the skin becomes sur-

charged with the ointment, it is easy to clear it again by means of a little oil, and then a second bath is taken. As soon as any fluctuation can be detected, no matter how obscure at any point, the bistouri must be made use of at once, all these abscesses requiring to be largely and promptly opened. At this stage, recourse may again be had to poultices over the suppurating points, and to compression, if the form of the part will allow it. When resolution does not take place, and the suppuration is tardy, it will be right to employ blisters. They may be applied in succession, or simultaneously over the points where the inflammation was most intense, and which are still the most engorged. The larger the blisters, the more certain their good effects, acting either as the best maturatives, or the best resolvents, that I know of. In many such cases, I can speak decidedly as to their good effects; having succeeded, in a little time, by means of them, either in dispersing or producing suppuration in masses which seemed to be unalterably indurated. When there is delirium, or great agitation, I also employ them from the beginning; arranging them in such a manner as to cover over the whole of the diseased, together with some of the sound parts. They are removed in twenty-four hours with the epiderm, and the exposed parts are powdered with camphor, in order to protect the urinary passages. The dressing is completed with simple ointment spread on bibulous paper. Mercurial inunction and compression may be conjoined with these means after a few days.

A purgative every third or fourth day, for a week or two, towards the decline of the disease, will be found useful. But medicines of this class should be carefully avoided if diarrhoea or other signs of visceral irritation be present. At a still later period, when the wounds cease to suppurate, it is sometimes imperative to have recourse to friction with the ioduretted ointment, on account of the doughiness and induration which often persist in several points. Frictions, with small quantities of mercurial ointment; deserve the preference when the induration is extensive; and compression would be still better when it is possible to apply it. The use of the tepid bath is of great value. It need scarcely be added, that from beginning to end, the parts should be kept at rest, and that the regimen and diluents should be regulated according to the state of the bowels, and the degree of general reaction. The wounds, ulcers, and eschars resulting from angeioleucitis require the same treatment as under any other circumstances." 293.

We cannot say that we have any great amount of faith in mercurial inunction. When the inflammation is of a sthenic character, we have found evaporating lotions or plain bread poultices as good local applications as any. When the inflammation is of an asthenic character, the patient old or weak, or suppuration impending, fomentations or warm poultices are advisable. In some cases there is a great tendency to the effusion of serum or semi-solid lymph into the cellular texture. Those cases have appeared to us the ones, in which moderate compression by means of strips of calico, spread with cerate, has answered best.

This article has extended too far to permit us to carry it to greater length. The remaining papers in the part of the Cyclopædia of Surgery before us are carefully compiled. We would however recommend a little more attention to the *composition*. A bastard sort of English has lately been adopted by our Cyclopædia writers, which, if not repressed, bids fair to debase our noble language in its application to medicine. A quantum quid between French, German, English, would appear to be in process of formation, repugnant to men of general education, and barbarous to the greatest degree in itself. We trust this will be corrected.

ESSAI SUR LA NEURALGIE DU GRAND SYMPATHIQUE, MALADIE CONNUE SOUS LES NOMS DE COLIQUE VEGETALE, DE POITOU, &c. &c. Par A. Segond, D. M. P. Paris, 1837.

ALTHOUGH perhaps the author arrives rather too hastily at the conclusion, that the species of colic he here describes is essentially a neuralgia of the sympathetic nerve, yet has he produced an excellent monograph upon the subject, a brief analysis of which will probably be acceptable to the readers of this Journal.

The "Vegetable Colic" is that form of the disease, which has been described under various names, as prevailing in different parts of the world. It has often been named from its locality, as Poitou, Devonshire, Madrid, Surinam Colic, &c.; or from some remarkable feature, as bilious colic, colic from depraved secretions, colic from injurious ingesta; and is the same disease as the hepatic ileus, or dry belly-ache of the West Indies, described by Dr. Musgrave. (*London Med. Repository*, 1823.) The term it is generally known by in France is "Colique Vegetale"—a name, as the author observes, obviously improper, since vegetable ingesta take no part in the production of the disease. It prevails to a great extent in the inter-tropical regions: and Dr. Segond, as chief medical officer of the French Marine at Guayana, had ample opportunities of observing it there.

Causes and Predisposition. Dr. Segond entirely rejects the idea of its being caused by unwholesome fruits, vegetables, ill-fermented drinks, &c. &c.; although he admits that these may determine an attack in persons predisposed to it by any epidemic cause. If, as is generally supposed, the above ingesta could produce the disease, we should not find women and children entirely exempt, and persons fall victims to it who partake only of the most esteemed diet; while again the marine service, although continuing precisely the same diet which secured health elsewhere, becomes attacked on approaching places where it is known to prevail at certain seasons. To attribute it as is sometimes done, to the poison of lead, derived from the water-pipes, adulteration of wines, &c., is equally erroneous; for while, where precautions have been taken against these causes, the disease has nevertheless appeared, on the other hand, where such causes have universally existed, in other places, no similar affection resulted: moreover, the colic from lead is attended with certain distinctive symptoms, as we shall see hereafter. The substances he most mistrusts are alcohol and coffee; and the reader will recollect, that Dr. Musgrave attributed the affection to the large quantities of rum consumed. Climatology would seem to afford the true key to its production, atmospheric influences often prevailing epidemically, being, according to Dr. S.'s experience, its true source. Thus, it has been found to prevail especially in places, where the contrast of temperature, by day and night, is marked, and where the vicissitudes are sudden, as in the elevated parts of Spain, and numerous inter-tropical situations. Again at Guayana it varies in the most remarkable manner, according to the season; and is either not present at all, or is very mild, during the equable heats of Summer, attacking chiefly the new comers, who rashly expose themselves

ill-clad to the night air; while during the Winter, and especially when a cold wind blows from the North, it becomes intense, and often violently epidemic. Any cause tending to check transpiration, powerfully aids the development of the disease, and thus it was frequently found to supervene upon exposure to cold currents of air while heated or sleeping, the taking cold beverages, while hot, &c. &c. Persons, too, whose occupations, or wants involved an exposure to sudden vicissitudes of temperature, were found exceedingly liable to be attacked. Thus sailors, fishermen, collectors of natural history, soldiers, bakers, cooks, blacksmiths, &c., and those persons who were too poor to obtain sufficient food and night-lodging, furnished nearly all the examples of the colic at Guayana. It attacks only the male sex, and seldom the two extremes of life. Persons of a bilious temperament, and of a nervous sensitive constitution, are eminently liable; as also are those suffering from nostalgia and melancholy, or who have debilitated their constitutions by alcoholic drinks or excessive venery—too common in these regions.

Symptoms The author describes these in a very clear, and detailed manner; the following is a summary of the principal ones—there exists, for several days, a preliminary sense of *oppression* and *discomfort* (malaise abdominal) in the abdomen, accompanied with a cast-down icteric *countenance*, highly expressive of the uneasiness felt, and speedily followed by inertia of all the functions of organic life, and general corporeal debility. The *abdomen* soon becomes excessively distended by the flatus, but unattended with tenderness, unless gastro-entritis be present, which it very rarely is at the commencement. Frequent *vomiting*, at first, only of the contents of the stomach, but afterwards of a yellow or greenish, acid, bilious fluid. The *stools* which, at first, are frequent and loose, soon become infrequent, dry and hard, and after awhile are succeeded by complete costiveness. From four, to five or six days may elapse, before the *colic-pains* occur, attacking, first, the duodenic, and, afterwards, the hypogastric region; they are of an intolerably lacerating character. The *pulse* is slow and unequal, but may be entirely natural, if no inflammatory complication exist. *Tongue* at first white and moist, becomes dry, as do the fauces, but there is little *thirst*. *Temperature* varies. The *urine* becomes scarce, and disordered in quality, whence great vesical irritation ensues. After awhile, great pain is felt in the region of the kidneys, along the spine, and in the extremities and trunk; when it invades the latter, the inspiratory muscles are sometimes nearly prevented acting, producing a state of the most imminent danger. The general debility increases, and the limbs become paralysed or convulsed. After several days, symptoms of decided fever, accompanying excessive abdominal tenderness, often manifest the co-existence of a *gastro-enteric* affection. Finally, the *Cerebrum* sympathising with, or participating in, the general disorder of the economy, we have delirium, general convulsions, perversion of the senses and intellects, &c. &c.

It is rare, however, for the disease to pursue this severe course, if judiciously treated. Its duration will much depend upon the season, and the prevalence of an epidemic state of the atmosphere; but, as a general rule, (although in some rare cases, promptly treated, it may be removed in a few days, it is a most tedious malady, having a greater or less number of *remis-*

sions in its progress, giving it somewhat the character of an intermittent disease, although it is totally unaffected by the remedies appropriate for that class of affections. It is almost impossible, by any treatment, to prevent frequent *relapses* in the course of the cure, even when the inexperienced would consider the patient quite secure, unless he be removed from the endemic influences which surround him. Where good, alvine evacuations, accompanied by a plentiful secretion of healthy bile, continue for a fortnight, we may begin to be tolerably certain of a favorable termination. When the disease passes into the *chronic* state, accompanied as it usually then is, by low fever and other signs of gastro-enteritis, it is one of the most deplorable and hopeless of maladies. The patient wasting away, his limbs atrophied, palsied or trembling, his intellect impaired or perverted, can only linger out a wretched existence.

Anatomical Characters. Dr. Second laments the paucity of anatomical observations on this disease. Almost all writers have set it down, either as a gastro-enteritis, or as a purely nervous affection. He himself considers that there is, in the first place, functional lesion of the sympathetic only, but that, in the progress of the disease, the organs it supplies become deranged in their operations, and may sometimes develop inflammatory action; but he adds, "as during life we must learn to distinguish a disease from the complications which supervene, so after death, must we trace the distinction between the principal or fatal lesions and those which are accidental or secondary." It being a disease seldom fatal, he had but few opportunities of examination after death, and only relates the result of two in his book; which, however insufficient they may be to establish the doctrine of the nature of the disease he advocates are very interesting as far as they go. We present an abstract of the appearances of the sympathetic. In the 1st case:—"The ganglia of the abdomen of a reddish-brown or yellowish colour, (resembling agate,) and hard as if hypertrophied; their branches of communication more apparent and voluminous, than in the normal state; on the right semi-lunar ganglion is a yellow spot, not penetrating its substance entirely. The solar plexus is increased in volume, the filaments and ganglia entering into its composition, having lost their natural softness, resist and creak under the scalpel, the ganglia themselves being of a brownish colour, spotted with yellow. The plexuses, also, which emanate from the solar, are larger, more prominent, and more easily traced than in the normal state." p. 28.—In the 2d case:—"All the ganglia are in a morbid state: thus, those of the chest are very large, and of a vivid red, spotted here and there with yellow, and their branches more apparent than in the normal state. The swollen ganglia of the abdomen present a yet more unusual volume, their redness not being so great, but their density greater than the thoracic. The semi-lunar ganglia are also increased, and cartilaginous. The solar plexus is equally enlarged, and its density so much increased that it is hard when cut into, while its secondary plexuses have undergone like changes. To be certain that the characters we observed, were truly pathological, we took an opportunity which presented itself, of comparing them with those of two bodies in the theatre, the one an adult, the other a child eight years of age." p. 35.

Dr. Second refers to M. Pascal's experience, without, however, detailing

it: we may mention, that this physician treated the colic at Madrid, and in the *Recueil de Memoires de Med. et de Chir. Mil.* vol. 19, 1826, relates, that he found the ganglia diseased in several cases he examined, and to their communications with the spinal nerves, he attributed the paralysis of the limbs.

We may here remark, how lamentably deficient is our knowledge of the pathology of the sympathetic nerve, even in diseases upon whose nature it might throw great light. The hurried and unsatisfactory manner in which "post-mortems" are conducted generally in this country, is much to be regretted;—rare indeed is it, that this system is made the subject of enquiry at all. We venture to entreat those medical men, to whom frequent opportunities occur, to neglect this important subject no longer; and in order to show with what facility the examination may be accomplished, we transcribe Mr. Swan's direction for that purpose:—

"In every examination of the human body, the state of the par vagum and grand sympathetic nerve may be readily observed, if the body be opened in the following manner:—An incision being made through the skin from the middle of the neck to the symphysis, and the skin turned back, the pectoral muscles are to be raised from the origins. The abdomen is to be opened through the linea alba, and then the attachment of the abdominal muscles to the ribs are to be divided as far as convenient. The clavicles are to be sawn through about their middle, and the ribs divided near their angles.* It is better to begin at the lowest rib, and divide two or three on each side, and then separate the diaphragm as far as it is attached to them. When the sternum and ribs attached to it have been removed, the viscera of the chest and abdomen are to be examined in their situations. After this every drop of blood is to be washed away with a sponge and water. The pleura may then be stripped from the ribs by taking hold of it at the part where they were divided, and turning it back towards the posterior mediastinum, when the nerves may be very readily dissected with the forceps and one blade of a pair of scissors. In making the examination, it is absolutely necessary to avoid wounding the veins, and if it be absolutely necessary to remove any of them for the purpose of seeing the parts behind them, then, two ligatures must be placed on each side of them before a division is made, as it is impossible to draw such satisfactory conclusions from the appearances when the nerves have been covered with blood."—*Enquiry into the Action of Mercury*, 2nd Ed. pp. 34, 35.

The *Treatment* advocated by our author, we think highly judicious, and he informs us it was very successful. The grand desiderata he considers, are "to relieve the pain, restore due evacuations, and guard against inflammation." In regard to the *pain*, its relief requires that we should be fully aware of the true nature of the disease;—that is to say, we must not treat it as *inflammatory*, but, as resulting from a perverted state of innervation, which has secondarily disordered the functions of several organs, an early effect of such disorder being to produce a degree of depression or torpor in them. Thus if we employ debilitating measures and apply large doses of opium so near the seat of evil, as is the gastro-intestinal mucous membrane,

* In dividing the ribs, Mr. Swan employs a pair of scissors "similar to those used by gardeners, in pruning trees: one blade is narrow and very thick, and is concave at the edge;—the edge of the other is convex, broad, and much thinner." With these the bones are divided with ease and expedition.

although perhaps we do obtain some temporary alleviation of the pain, it is by adducing additional torpor and debility in organs already too inactive and depressed. By applying *blisters* on each side of the spinal column, we break through this anomalous state, and then we can with more propriety have recourse to *opium*, but it is much better to apply it in the form of *morphine* to the blisters, taking care, however, that the quantity used be not excessive: the blisters need not be confined to the lumbar region, but may also be applied to the shoulders, back of the neck, pole of the head, &c. according to whether the respiration, voice, or encephalon be involved. When the pain is somewhat relieved, we should be cautious as to continuing the morphia, lest we render the bowels less obedient to the action of evacuants.

To procure *evacuations*, and stimulate the secretory powers of the disordered organs, are most important indications. *Emetics* although so often of the highest use in persons of a bilious temperament, where the bile continues to be secreted and accumulated in the duodenum and stomach, as evinced by great nausea or frequent vomiting, are hurtful in eminently nervous temperaments. *Purgatives*. As the presence of bile determines us as to the use of emetics, so must its absence determine us as to the kind of purgative, since in this case the strongest will not act unless aided by chologogues. Dr. S. praises, as the best means of giving activity to this secretion, a powerful dose of *calomel*, *aloës* and *soap*, and if this combination be rejected by the stomach, it should be administered in a small quantity of liquid, containing some opium, as an injection. These medicines will usually procure some bilious stools, but efficient purging will not result until some saline purgative has been added. As soon as this occurs we should be careful to discontinue the calomel. In some cases, which have resisted these means, he has employed frictions of *croton oil* (diluted with castor oil), but he has not given it internally, fearing the *poisonous* effects of large doses. This reminds us of a case, which once fell under our notice, where, to relieve constipation consequent on hernia of old standing, croton oil was given in doses of two or three drops, every two or three hours, until it operated. The purging which resulted was not immoderate, and the symptoms were relieved, but the patient without assignable cause gradually sank; and as no reason could be discovered for this after death, we concluded he died from the poisonous effects of this medicine on the nervous system. If we recollect aright, he took about a dozen drops in all: he was a man of good, though not robust constitution, aged between 50 and 60 and very temperate. Where the constipation is obstinate, the author passes great encomia upon the *decoction of fresh tobacco leaves*. He gives two or three lavements, if no symptoms of narcotism are present, and has never known the bowels resist.*

* The reader will remember Dr. Abercrombie's opinion upon this subject: "The tobacco injection, as far as my observation extends is the remedy of most general utility in all the forms and stages of ileus. It should be given at first, with much caution, perhaps not more than 15 grains infused for ten minutes in 6 ozs. of boiling water. After the interval of an hour, if no effect be produced it may be repeated in the quantity of 20 grs. and so on until such effects are produced in slight giddiness and muscular relaxation, as show that its peculiar action is taking place upon the system. It may then be repeated at intervals of

Various subordinate remedies (as baths, fomentations, &c.) must not be neglected, and as *relapses* are characteristically frequent in this disease, the strictest attention to regimen and diet should be enjoined, and above all things, when the health is sufficiently re-established, a change of locality. The purgatives must be continued, and the urinary secretions encouraged by diuretic drinks, while the surface of the body must be carefully protected by judicious clothing. - Where the abdominal uneasiness persists, as also the pains of the limbs, the external and internal use of *turpentine* is often very useful. Although, as has been observed, the disease almost often approaches to an intermittent, in the frequency and duration of its remissions, yet is it not benefitted by the usual anti-periodic medicines, as iron, quinine, &c. As a general rule we shall be more successful in the judicious and modified continuance of the measures useful at the commencement of the disease, than in resorting to the employment of other medicines; however useful these may be in disorders apparently analogous. In regard to the treatment of some particular symptoms: if the *epilepsy* be not attended with symptoms of debility, especially by paralysis of the limbs, bleeding will be useful. For the *paralysis* which may arise, either from the long continuance of the disease, or from a too active primary treatment, the general and local employment of turpentine is useful; but of all remedies, in this case, strychnine has been the most serviceable—an alcoholic solution being at the same time rubbed upon the spine, and the paralysed parts. The *dyspnœa*, arising from the diminished power of the inspiratory muscles, is an alarming symptom, and should be met at once with a blister, dressed with strychnine; awaiting the action of which, stimulating frictions should be employed upon the chest and fluids of the same nature swallowed. The *trembling of the limbs* is best relieved by the baths of the sulphuret of potass.

Antiphlogistic and Debilitating Agents.—"The symptoms teach us these should not be our first means, although some practitioners see in them our only resources: we have often known their use attended with negative and deplorable results." Should, however, inflammation precede, or suddenly complicate vegetable colic, vigorous antiphlogistic means must be employed. As to general bleeding it is rarely indicated, since this complaint rarely shows itself in the plethoric, and the inflammation of the digestive organs yields better to leeches. But, if in the progress of the neuralgia the cerebro-spinal system becomes seriously involved, we should abstract blood generally, but yet with due regard to the strength of the economy. It is rare indeed that general bleeding can be required to *precede* in the treatment, and when, in its course, its necessity becomes apparent, it is from some grave complication, or epidemic peculiarity. We are naturally anxious to combat the severe local pains with leeches, but sinapisms to the parts will often be found more useful. The symptoms of vesical irritation, however, require, and are relieved by leeches.

Dr. Second next relates, as illustrative of the symptoms and treatment, 21

one or two hours, a great many times, if the case do not yield speedily, and with the precautions now mentioned, I have never seen any unpleasant effect result from the free use of this powerful remedy."—*Pathology of Intestinal Canal*, p. 144.

cases, which he has selected from the great number attended. They are well, and apparently impartially related.

Essential Nature of the Disease and its Diagnosis.—In this section of his work the author, after taking a recapitulatory view of the effects of those causes, (*c. g.* climate, temperature, &c.) which he believes engender an inordinate susceptibility in the organs of vegetative, organic, or internal life, developed as are their functions by these causes into an anormal activity, next reviews several of the phenomena of the disease, and from a consideration of these and the circumstances in which they differ from some analogous diseases, arrives at the conclusion, that this system is solely, or chiefly, or at all events primarily affected, and that the various organs of the body, when invaded by diseased action, are so only secondarily, and as a consequence of the depravation of their secretions by the disorder of the system which regulates them—or from an extension by sympathy of this disorder to other nervous cavities. Some of his observations we proceed to notice.

Nature of the Pain.—in its character it neither resembles the iliac passion, the nervous colic, or inflammation of the mucous membrane. It has a different pathological modification: radiating from the ganglionic system as from a centre, it extends to the various abdominal organs, the limbs, bladder, &c. It is of a twisting, tearing, and lacerating nature, apyretic, internal, and unincreased by pressure. Its extent, its duration, and the means by which it is relieved, equally shows its non-inflammatory nature.

Nature of the Treatment.—The treatment we have described, could not have been successful had this been a primary inflammatory disease. We have found that antiphlogistics are not the best means for combating it; and yet the too free and indiscriminate use of opium is not admissible, for although the pain be nervous, we must not add to the physiological depression and inertia of the implicated organs.

Distinction from Bilious Colic.—The author defines this, as colic arising from the presence of biliary calculi, which is certainly sometimes an accidental complication also in vegetable colic. But in bilious colic, stools are present, and there is inflammatory action. In vegetable colic, the liver in common with the other digestive organs suffers more or less, accordingly as it may have been predisposed,—but yet its affection is but secondary, and occasioned by the altered state of its secretory powers, diminishing and vitiating the bile, and sometimes inflaming the mucous passages it traverses. The definition Dr. S. here gives, as the one usually received of bilious colic, there can be no question, is too limited, for although he himself may bestow that name only upon the colic which is caused by calculous accumulations, yet, many other authors believe the liver to be the part primarily affected and by its suppressed and vitiated secretions, causing a train of symptoms identical with the “colique vegetale.” Thus Dr. Musgrove, taking this view of the disease, denominates the dry belly-ache of the West Indies, hepatic ileus, attributes its origin to the effects of rum upon the liver, and treats it with mercury carried to salivation.

Distinction from the Lead Colic.—Although these two affections may be confounded together in books, they cannot at the bed-side. A most important distinction is the sporadic character of the one, and the (almost invariably) endemic or epidemic prevalence of the other. In metallic colic, the patient's health may be sometimes re-established, even without medical aid, which is impossible in the vegetable—at least while he remained in the same locality preventing as that does, an estrangement from the same cause, which may occur in regard to the metallic. In vegetable colic, there is a greater tendency to the inflammatory complication, with accompanying fever and tenderness. The great distention of the abdomen, is one of the best distinguishing marks of vegetable colic, from the metallic, in which, there is great retraction of that part. The countenance, in the lead disease, is natural between the paroxysms, while in vegetable colic, it permanently indicates the oppressed state of the organism. In the latter there is more marked icterus from the greater participation of the liver in the chain of disordered actions. While suppression of urine is not observed in the colic from lead, the retraction of the testicle, and contracted state of the anus and rectum, found in it, do not prevail in the vegetable colic. Epilepsy is a much more alarming symptom in lead colic, arising as it does from idiopathic disease, produced by the poisonous effect of the metal, while in the vegetable, though a serious superadded phenomenon, it is merely a functional affection. Paralysis of the limbs is less immediate and imminent, but more dangerous and obstinate, in the vegetable colic. The diagnosis is not difficult in the lead colic, but requires experience in the vegetable: the prognosis is favourable in the former, difficult and tedious in the latter. Lastly, the treatment of the two maladies differs.

The author concludes his work by examining how far the functions, whose lesions he has described depend upon the sympathetic nerve; and he here entirely bases his observation upon the Researches of Brachet upon the Functions of the Ganglions (*recherches experimentales sur les fonctions du systeme nerveux ganglionnaire*). For example, as regards the *stomach*, while we see the *par vagum* establishing the communication with the cerebrum, for the expression of its wants, and for the performance of its movements; the secretion, exhalation and absorption of its fluids are under the direction of the ganglionic system. Thus in *colique vegetale*, inappetence rather than a disgust at food, is present; chymification becomes imperfect, as the power of producing the necessary fluids is diminished or suspended. The dominant sensation, at first, is rather one of weight or heaviness, than pain, and if vomiting occur, it is not so much from *erethism* of the stomach, as from the accumulation which has occurred in it, since its absorbing powers have diminished. The lesion, then, affects rather the vegetative, assimilative or chemical life, than the relative life of this organ. Thus too the exhalation of fluids upon the mucous surfaces of the *intestines*, being almost entirely suspended, we have a deficient chylification, and an increased dryness of the stools, with an almost impossibility of obtaining them; and although this last may, in some measure, arise from the absence of bile, yet after that has been obtained, they continue infrequent, hard, and globular, until the intestinal secretions are freely re-established. In the *rectum*, the sensations are not blunted, but morbidly increased, being excited, however, not by the presence of fecal matter, but by the acrid nature of the depraved

secretions, exciting the sympathetic action of the spinal nerves. The *kidneys* secrete the urine with difficulty, in small quantities, and of altered qualities. The *bladder* placed like the rectum, under the influence of the spinal nerves, gives rise to very troublesome symptoms; irritated by the nature of its contents, the attempts to evacuate them are urgent and distressing, inducing, sooner or later, a diseased state of the membrane, and requiring medical means to be directed expressly to their relief. In the *lungs*, although the sense of the necessity of respiration, and the mechanism by which it is effected, depend upon the pneumogastric and intercostal nerves, yet the chemical phenomena,—the secretory powers, are subjected to ganglionic not cerebral influence; the respiratory function is affected in the first instance, but it would seem to be so, rather in consequence of the sympathy of the spino-cerebral system with the ganglionic, than from any direct influence of this last itself. The complication is grave, and the danger imminent, when the power of performing efficiently the necessary movements dependent on the cerebro-spinal system, ceases simultaneously with the chemical influences dependent on the ganglionic.

Although Dr. Segond's reasonings are not entirely conclusive, nor his facts sufficiently numerous, he has nevertheless produced a creditable and instructive little work; written as it is in a candid spirit, and with a knowledge of its imperfections. He has studied the disease in a manner essentially clinical, and declares that the theory of its nature, he has broached, was forced upon him, by an attentive consideration of the symptoms, and means of removal. As at the outset of his career, he had no theory to support, or books to consult, his observations are more likely to be unbiassed and trustworthy. The subject is important and by no means limited to this species of the disease, or the particular climate in which he has observed it; for doubtless whatever throws light upon its essential nature, will, also, more or less elucidate other diseases of its class. We join him, in entreating all those to whom opportunities may occur, (especially, the officers of the navy and army, to whom medicine already owes so much), to be diligent in the collection of clinical and pathological observations upon this interesting malady.

We may just cite, in conclusion, as somewhat corroborative of the author's view, the observations of *M. Pascal*, who had the opportunity of treating the Madrid colic, and whose pathological experience we have alluded to. He believed it to be a disease situated in the ganglionic system, and found, that the employment of internal medicines to relieve the pain and irritation, and of external revulsives, was far preferable to the obtaining large evacuations by purgatives and bleeding. *M. Marguand*, who treated the same epidemic, and who is said never to have lost a patient, believed in its nervous origin, and treated it by opium and purgatives. *M. Andral*, speaking of the nature of *lead colic*, (and we are far from agreeing with Dr. Segond, as to there being so marked a difference in the *essential* nature of the two diseases, however some of the symptoms and the causes may differ) among other observations, says, "to us it seems the lead colic is a nervous disease, in which there would seem to be especially implicated the spinal marrow, and the abdominal plexuses of the grand sympathetic. The constipation would seem to depend upon, either the annihilation of the con-

tractile movement of the intestines, or upon the suspension of the secretions from their mucous membrane."—(*Clinique Medicale*, Tom. 4).

M. Ranque, so well known by his work on lead colic, "places the primitive seat of this disease in the portions of the pneumogastric and trisplanchnic which are distributed to the stomach, the intestinal canal, the liver, the kidneys and bladder; and the secondary seat in those portions of the spino-cerebral system, which supply either the painful limbs, or integuments of the head."—(*Journal des Progres des Sciences Medicales*, Tom. 2).

The work of *Mr. Teale* on Neuralgia, details several observations on affections of the digestive organs, manifested by pains, altered secretions, and increased flatus, which he attributed to disease of the sympathetic ganglia, and which he found relieved by applications in the neighbourhood of the spine, after the same means had failed, when applied to the seat of pain. He also mentions two cases of colica pictorum, in which the symptoms disappeared after applications to the loins had been resorted to.

COUNTER-IRRITATION, ITS PRINCIPLES AND PRACTICE, ILLUSTRATED BY ONE HUNDRED CASES. &c. By *A. B. Granville*, M.D. &c. Octavo. Churchill, London. 1838. Pp. 360.

WE are friends to counter-irritation, and daily witness its beneficial effects. But we are not quite so sanguine, as Dr. Granville seems to be, that the antidynous ammoniated lotion will go far to knock up the drug-trade, or, at all events, "save the constitution of patients from the pernicious effect of a polypharmacous treatment." We regretted to read the following passage in the preface. "I address it (the volume) in an especial manner to the general reader, rather than to my professional brethren." The reason for this is, that medical men will not be able to introduce the measure of counter-irritation widely, unless the public are first impressed with the importance of the remedy. "Of that importance the medical profession are fully aware: they have therefore little or nothing to learn from me on that point."

We must pass over several sections on the terms which have been employed in designating the agency of counter-irritation—on the nature of counter-irritation—on the conditions necessary for its successful application—and on the various agents that have from time to time, been employed—as the lytta, mustard, croton oil, &c. &c. In the sixth section the ammoniated counter-irritants—and particularly the "antidynous lotions," are brought forward. Dr. G. observes, that of 103 forms of counter-irritants, there is not one, of which we can "fix or determine the precise dose," that is necessary to produce the desired effect. This observation, however applies pretty generally to all remedies. We can seldom ascertain the precise dose of calomel, jalap, or antimony, that will just do what we wish, and no more. Dr. Granville gives us no distinct formula for the ammoniated antidynous embrocation—unless the reader can extract it from the following passage.

"Some personal experiments made on myself, in the first instance, with simple as well as compound preparations of ammonia, spirits of wine, vegeto-aromatic spirits, camphor, and other stimulating and evaporable substances, differing from the few preparations already in use and combined with water, or with oils or butyraceous vehicles, or saponified into cerates—which experiments were afterwards repeated with the greatest success on some of the patients of two of the public medical institutions I belong to—led me to the knowledge of the fact, that, by merely regulating the several proportions of those ingredients, according to the nature and intensity of the case we have to treat; and, what is even more important, by mixing those important ingredients in a particular order, instead of at random (paying due attention also to time), combinations of a more powerful kind than usual could be obtained. I found, in fact, that without charring the skin, or producing an eschar, such combinations would, on a mere application to the external surface of the body, give rise to peculiarly energetic effects on disease in the brief space of a very few minutes (sometimes seconds only), without necessarily producing at the same time rubefaction, vesication, and cauterization; although, if sufficient time for the purpose were allowed, the same combinations would produce the latter phenomena also, besides the mere first impression."* 52.

In the 7th section are enumerated the occasions on which the antidyne (or anodyne, which is a better term after all, and more familiar) is to be employed. These are numerous enough, viz. in cases of spasmodic and painful complaints—muscular and tendinous affections—morbid affections of the vascular system—anomalous diseases, &c. &c.

The following is the mode of applying the anodyne.

"All that we have to do, is first to impregnate the colourless and transparent liquid, either a piece of linen folded six or seven times to the size of the part intended to be covered or a piece of thick and coarse flannel; and secondly, to lay either of these on the spot, pressing with the hand at the same time, very steadily and firmly, the said linen or flannel, over which there should be placed a thick towel, doubled several times, so that not only the evaporation of the lotion may be impeded, but the hand employed in pressing the application to the part may not suffer damage from any evaporation or from contact with the liquid. In some parts of the body more convenient than others, the readiest and most effectual mode of pressing down the application, is by tying over it a towel or thick bandage; but to this mode there is the objection that we cannot under certain circumstances, inspect the part as quickly and as often as is required, so as to judge from the effect of the application, when to stop, or how long to persevere in using it," 84.

This antidyne, contrary to what its name imports, produces, as might be expected, more or less pain, according to the degree of sensibility in the individuals.

"The first impression made is that of excessive coldness; presently, a pricking or tingling of the part supervenes, in all respects like that which we experience in a limb that has been 'asleep,' when the blood returns into it. This feeling, which at first occurs only in insulated points of the part acted upon by the lotion, soon becomes more general, until it seems to occupy the whole of the surface; and then a sense of heat in the part is substituted for the first impres-

* We have italicised a few lines containing all the information which the author chooses to grant respecting the actual combination.

sion of cold, which heat and tingling increase gradually and simultaneously, until they seem to become one single sensation, approaching it in its nature as near as possible to that experienced when we hold the hand close to a blazing coal fire for a minute, or rather resembling the painful feeling of a severe burn produced by scalding oil or melting sealingwax dropped on the fingers." 87.

We doubt whether any of our brethren will be able to compound the ingredients of this lotion, so as to produce the following effects :

"It now remains for me to assert, as a crowning of all this, that so soon as the pain of the lotion is felt, that instant the inward pain, for the removal of which it was applied, is suspended and at last vanishes. Indeed, during a paroxysm of *tic-douloureux* of the face, and while the patient is under the most agonizing suffering from that complaint, the immediate cessation of that suffering which follows closely upon the application of the lotion, and as soon as the counter-irritating pain is set up, borders on the miraculous." 88.

As we now live in the age of miracles, we hope the foregoing demi-miracle will often be realized both by Dr. Granville, and those who may be fortunate enough to discover the real composition of the antidynous lotion.

"If we watch the successive changes that take place in any part of the body during the application of the ammoniated lotions to it, we observe as was before stated, a lively crimson blush of the skin in the course of the first two minutes, the cuticle remaining tight. In another instant or two more, however, the cuticle is seen corrugated here and there in exceedingly fine folds of a peculiarly white opacity. These folds occur generally in bundles, which are placed apart from each other, and leave a space between, where the cuticle is still stretched ; until, in the course of two or three minutes more, it is seen to rise, sometimes in round dots, like small bubbles, at other times in patches of every shape and dimension,—in all of which a pale yellowish thin fluid will be found, on close examination, to have collected. In a very few minutes more these patches and dots unite together or become confluent, and give rise, at last, to general vesication of the skin in the part, resembling altogether that which is produced by an ordinary blister. By this time the quantity of the counter-irritant with which the compress was charged has, partly through absorption (!), partly through evaporation, become exhausted ; and if any greater effect from the counter-irritant employed be wished for, the quantity must be renewed and re-applied to the same part, so as to establish in it a downright ulcerative process, in order that we may obtain, as a desirable result, a purulent discharge from the surface. It happens very often, that these three several stages of phenomena of local and artificial counter irritation, are produced in half the time here mentioned, by the lotions in question ; but I have also known, on a few occasions, the third phenomenon, or the stage of cauterization, not to have been produced, under a shorter period of time than two or three hours.

From what has just been stated, the reader will perceive, that in its progress from rubefaction to ulceration, the lotion becomes a real blistering liquid ; nor will they fail to remark also, that whereas a common blistering plaster requires some hours to produce even its first impression of tingling or of something like pain,—the counter-irritating ammoniated, or antidynous lotion, on the contrary, will raise a full blister in less than ten minutes." 89.

We now come to the narrative of one hundred cases, occupying more than 250 pages of letter-press. We think a much smaller number of cases would have been amply sufficient to illustrate not the principles of counter-irritation, for they are well known, but the peculiar agency of the antidyne. It will not be necessary for us to notice more than a few of these cases.

Case 1. This was Mr. Riley, a gentleman who had consulted many of the faculty in this metropolis with little benefit. While serving in Van Dieman's Land some three and twenty years before Dr. G. was consulted, he was wounded by a spear above the right hip, towards the spine. He was soon afterwards attacked by neuralgia, and the following extract from his own statement to Dr. Armstrong, in 1830, will convey some idea of the nature of the assaults.

"My peculiar case appears to be one of almost exclusive distress, arising from such constant recurrence of pain in every part of my person, that I know not when or where I am free from suffering. My shoulders, the entire of each side, arms, back, hips, sciatic nerves, all parts of the thighs, knees, legs, ankles, and feet, are equally visited. I go to bed or rise apparently in my usual proportion of health and spirits, when, suddenly (and as generally in the night as in the day) I am attacked with pain, alternating in throbs, varying in degree of acuteness, and in duration from one to twenty-four hours, and more particularly under every and the most trifling changes in the state of the atmosphere. Sometimes I am only affected in one place, but not unfrequently in four, five, and more places at the same time, *and often with such extreme intensity that I cannot well describe my experience*, except that it then appears to resemble the agony of those afflicted with the malady termed *tic-douloureux*!" 105.

Mr. Riley had found by experience that the quickest way of dispersing the paroxysm was by enveloping the part in flannel bandages, drawing them as tight as possible. These sufferings were much mitigated (even according to the patient's own account,) by the antidyne, and he lived two or three years afterwards, in comparative health, dying at last of atrophy.

Case 2. (No. IV. in the book). The Countess of ———, had a singular affection of the chin, with severe nervous head-aches. The pain of the chin was somewhat periodic, and, at times, unbearable, and, in the intervals, the parts were benumbed. The ammoniated lotion was applied, and the result was in the instantaneous removal of the pain, and return of the natural sensibility of the part. Vesication was produced.

Dr. Granville candidly mentions some cases of *tic-douloureux*, where the antidyne failed. We do not wonder much at this, for, in too many cases the neuralgia depends on changes of structure which no medicine can cure, and few can relieve.

Case 3. (X). Count de ——— suffered much from periodical pain of the supra-orbital nerve, coming on at eight o'clock in the morning, and lasting till noon. The London doctors having failed, Mr. Scott, of Bromley, was employed, and exhibited large doses of bark, without benefit. St. John Long was equally unsuccessful. Then came our author, who applied the antidyne to the brow, during a paroxysm. "The spasmodic contractions were almost immediately suspended," and, at the expiration of two minutes, the pain was gone. At the end of three minutes a blister was raised. The complaint did not return.

Case 4. (XIV.) A gentleman was subject to incessant pain at the pit of the stomach, sometimes increased by pressure—sometimes not. There were sometimes, when the pain was very severe, an attendant nausea, and also

palpitations. The antidyne, very strong, was used with partial, but not complete relief.

Case 5. (XVIII). The Countess of —, came under our author's care in March, 1835, for a severe spasmodic complaint of the back, of eight months' standing, and attributed at first to a chill. The following is a graphic, we had almost said scenic description of one of the paroxysms, which usually came on at eight o'clock in the evening.

"When I entered the chamber, in which were the Duchess of —, the lady's mother, and a female attendant, the agony of the patient *must* have been excessive,—judging by her contortions, the agitation and cramping of her limbs, and the severe pain of which she complained. She was laid flat on a couch, and her spine examined, when it was found that the whole length of it seemed in motion,—representing, not unaptly, the annular movements of a snake. Even the iliac bones were drawn up and down, with a jerk and violence of motion, such as I had never seen before, and should have deemed almost impossible, had I not seen it. The pain, like the electric fluid, shot up along the back-bone into the occiput, and thence through the head into the globes of the eyes, which became painful, rolled violently in their sockets, and gave a dismal character to the face, itself greatly agitated. The patient could just mutter a few words in answer to my questions, from which I learned that pain was then pervading the shoulders and arms as well as the lower extremities; that the surface of the abdomen felt sore on the slightest pressure, and especially so in the position she was then placed; lastly, that she experienced a sense of suffocation in the chest. There came on, while I was present, a severe cramp in the calves of the legs, and the feet felt very cold to the touch. As to the pulse, I found it next to impossible to count it, and the movements of the heart were equally rapid and irregular. Such was the violence of the attack, that although I endeavoured to press with some degree of firmness upon the back-bone, so as to keep it down in its natural position,—one of the many convulsive throes or spasmodic leaps of that part occurred more than once, which by bending the spine almost double, anteriorly, threw off, like an inferior weight, the pressure of my hands. The scene was truly heart-rending, and not to be described in words. I prescribed and sent for a moderately-strong ammoniated lotion,—considering this to be a case in which such a counter-irritant might be of great service.

The preparation came, and I instantly applied a thick compress of linen, three inches square, saturated with it, on a portion of the spinal column, above the place which had been cupped and blistered during previous treatments. The watch was held by the mother. In three seconds the moaning ceased; in five seconds more the patient heaved a deep sigh; before the first minute elapsed, she said that 'the pain was going,' and presently 'that it was gone.' She exclaimed at the same time that 'the application was a blessing; it smarted much, but was a pleasure to her.' Two or three more deep sighs followed, which, I concluded, announced the cessation of the paroxysm. On inquiry afterwards I learned that in general the diurnal paroxysms, which always lasted three hours, terminated in a succession of deep sighs. Wishing to make the matter more certain, I applied the same compress, still rather wet, on another and a little higher spot, and on a third place still higher, after having supplied the compress with a small quantity of fresh lotion. Altogether the three applications lasted three and a half minutes, during which the whole extent of the surface of the back-bone became red and hot, but no immediate blister followed." 151.

No medicine was given, and although some relapses occurred, yet the

repeated applications of the antidyne restored the Countess to health and to society. No practitioner of experience can doubt, for a moment, that this was hysteria, and nothing else. It is by no means improbable that a bucket of cold water poured over the Countess would have stopped the paroxysms, just as well as the antidyne. It appears that the lady afterwards had attacks, in Scotland, in the country, and in London, but Dr. G. was not consulted, and he knows not how the lady was treated.

Several cases of epilepsy, sympathetic and idiopathic, are detailed, in which counter-irritation was more or less useful. But epilepsy is such a capricious disease—ceasing for months, or even years, without medicine at all—and afterwards recurring with accumulated ferocity—that we place little reliance on apparent cures. We have no doubt, however, that the counter-irritation in question would prove auxiliary to other means. We prefer the antimonial to the ammoniated applications in these cases, well knowing the superiority of a purulent over a serous discharge in chronic diseases. It is in sudden, violent, painful, and spasmodic attacks that the ammoniated lotion bids fair to be extremely useful.

Instances of spasmodic asthma and hay-fever are adduced, and where much benefit resulted from the application of the antidyne. But we are unable to dedicate more space to the remainder of a hundred cases detailed in this volume. They will be greedily perused by the public at large, and Dr. Granville will be obliged to erect an ammonia manufacture for the preparation of the antidyne.

Since writing the above we have made several experiments, first on our own persons, and afterwards on others, and we have no hesitation in averring that we can enable any man in Her Majesty's dominions to procure and apply this extremely useful and most valuable counter-irritant. This antidyne is neither more nor less than the *strongest* liquor ammonia that can be procured. The liquor ammonia of the Pharmacopœia, will not do; but the potent kind may be procured from most chemists. The following mode of application we have found to be the most easy and the most effectual. Fill the lid of a turned wooden pill-box with circular pieces of lint or linen, till it is above the level of the rim, keeping the rim clear. When antidyne is wanted, pour some of the liq. ammon. upon the lint or linen, so as to saturate the folds. The box is then to be instantly inverted on the part, and held on with firm but gentle pressure. It first feels like a piece of ice—in a minute or less, a sense of heat and tingling is experienced—then a burning heat—and in from two to five minutes a blister is raised. In fine, every physiological effect described by Dr. Granville is produced by this preparation. The lid is then to be pressed upon the box, and kept till another application is necessary, when some fresh liquor ammonia must be poured over the lint.

Now we think that this mode of application is infinitely preferable to that recommended by Dr. Granville—viz. wetting a pocket handkerchief, or several folds of linen, by which a great quantity of an expensive article is wasted, and the evaporation is not half so effectually prevented by the napkins as by the edge of the box, which leaves a dent in the skin like the rim of a cupping-glass, thus enabling any person to apply the ammonia close to the eye, if desirable, without the least risk of injury to that organ. This mode also

prevents the great diffusion of ammoniacal gas through the room, which is very pungent and unpleasant to weak lungs or weak eyes. The only objection to this mode is the size of the box, which is too small, where a considerable surface is to be vesicated or counter-irritated. A wooden box, however, of any size, may be easily constructed;—or, the same box may be re-applied, with almost the celerity of a cupping-glass, and thus vesication or any degree of counter-irritation produced to any extent. The liq. ammonia should be kept in a very strong bottle well stopped, and in a wooden case. The bottle should not be more than half filled. We think that no medical man should be without this small but potent remedy, to be applied in cases of emergency, and where violent pain or spasm is to be quelled with celerity. We do not, indeed, believe that the remedy in question will ever prove extensively beneficial in chronic and painful maladies, where blisters or antimonial counter-irritants are now employed. The purulent discharge procured by lytta and antimony, or by setons, will always be more powerful derivatives than the caustic ammonia. But the latter will prove extremely useful in urgent spasms, or deep-seated inflammation of vital organs, where rapidity of agency is of the utmost importance.

In this brief analysis we have endeavoured to be useful to our readers rather than censorious or eulogistic towards the author. These latter propensities and practices we leave to our neighbours—and much good may they get by them. Dr. Granville, however, is entitled to thanks for the introduction of this powerful remedy. We now very frequently employ it.

GRUNDRISS DER PATHOLOGISCHEN SEMIOTIK, ZUM GEBRAUCHE BEI VORLESUNGEN. VON A. F. Schill, M.D. Tübingen, 1837.

OUTLINES OF PATHOLOGICAL SEMEIOLOGY, &c.

“*Si non vis intelligi, debes negli,*” is a maxim by the spirit and letter of which the Editors of this Journal invariably endeavour to regulate their selection of those works which are to constitute the subject of analysis in its pages. To the observance of this rule they have been determined by several motives, among which a respect for the judgment of their readers, and a desire to spare their time, and to abstain from putting their temper and patience to too severe a test, are not the least influential. To the Editors it makes not a whit of difference under what garb or in what language trash and absurdity may be conveyed—these ingredients, which truth obliges us to say, so frequently constitute the bulk of many a ponderous medical work imported into this country from our continental friends, cannot be changed by any alchemical influence of the language in which they may be presented. In spite of the unwieldy stiffness of barbarous Latin, the tawdry tinsel of French frippery, or the pompous pedantry of German sciolism, nonsense will be nonsense still; and whilst they envy not the taste of those journalists, who seem determined to stimulate the stomachs of their readers by the high-seasoned fricassees of continental cookery, they shall continue, as has been their wont, to give the preference, when preference is merited, to the wholesome and substantial pabulum to be obtained from the intellectual

stores of old England. The object of the writer of these remarks is to answer a charge, which some have advanced against this Journal, viz. that it is too sparing in the foreign review department. That it is not and that it has not been negligent in the department of reviewing foreign works, where these possessed merit, we could adduce many, very many proofs. To mention one out of several, (and certainly the Medico-Chirurgical may take no small praise to itself for the fact), it was to the extended and frequent notices and strong recommendations contained in it of Laennec's work on auscultation, that the so early introduction into this country of that splendid auxiliary of modern pathology may in a great measure be attributed. We could cite other instances of a similar kind; but we trust it is unnecessary; we again repeat it, that whenever we shall find sufficient merit in foreign medical literature, we are determined to give our readers the earliest and fullest notice possible of it; once more however we say we will not countenance nonsense merely because it assumes a foreign dress.

In conformity with this our rule, we now present to our readers a short analysis of a work which has lately appeared in Germany on semeiology; we are the more disposed to do so, as the author not only appears to be one of the very few of his countrymen who write with a desire of being understood, but also because we conceive his book to be a very good one. Of this, however, our readers will be able to form a judgment for themselves from the extracts we shall present. Strange to say, we have not in our language any work exclusively devoted to the subject of semeiology. This branch of medicine among the ancients, and indeed until within the last 20 years, was but very imperfectly cultivated; its only bases formerly were physiology and clinical observation; and though such foundations may have sufficed for nearly every useful purpose as connected with *prognosis*, they were altogether insufficient for the formation of anything like a certain *diagnosis*, which generally speaking can only be established by comparing the phenomena observed during life with the lesions found on the dead body. The falsity of the assertion that the disturbance of a function, indicates lesion of the organ which presides over that function is proved daily by the researches of pathological anatomy. So that it is to clinical observations, physiology, and pathological anatomy, all three combined, that it belongs to determine the real value of the signs of diseases.

The author commences his work by an introductory chapter, in which he lays down, §. 1, the signification he attaches to the term semeiology; §. 2, the sources of this department; §. 3, the mode of forming signs; then the relation of semeiology to the other pathological sciences, §. 8-10. Value of semeiology, and its history, §. 12-20.

Semeiology he defines to be "the doctrine of the relations in which the phenomena in the human system stand with respect to the vital state which produces them." According as the latter is normal or morbid, semeiology is divided into physiological and pathological. Pathological semeiology considers the phenomena, whether normal, or abnormal, according to their relations to the states of disease, which have produced them; it includes within the circle of its enquiries those changes which the functions present, as well as all changes of the organs, as far as they stand open to observation in the living body. With respect to the *sources* of semeiology, observation is set down as the chief, which includes clinical observation during life, and

a careful notice of structural changes after death. In order that perfection may be attained in observation, it is necessary that all the organs and functions should be interrogated, as far as possible, so that whatever is found abnormal should be strictly investigated, the preceding and accompanying external influences should be carefully taken into account, and the earlier physiological and pathological phenomena be thoroughly known. The phenomena being thus carefully observed, semeiology next seeks to ascertain the cause of the individual phenomena, by enquiring with what various groups of the same phenomena they happen to be combined. It first argues from these to the changes produced in internal organs, and then from the anatomico-pathological and the pathological phenomena combined, it infers the cause which gives rise to both. The author next observes, that the diagnostic import of the individual phenomena, that is, their value in determining the present state of disease, proceeds from the more or less close connection in which they stand with the particular species of disease as also with its seat. Here the rule holds good that, if phenomena which are connected with a disease constantly or almost constantly, stand in close relation to it, they may be accounted for or not on physiological and pathological laws. In the latter case one needs to be particularly cautious in the formation of signs, and repeated and close observation becomes requisite. The greater or less diagnostic value may be determined by enquiring on the one hand with what multifarious states of an organ a phenomenon is connected, and how great the number of affections of other organs is, which in the organ more immediately presenting the phenomenon, produce the morbid state necessary thereto. On the other hand it will appear from this how different the other phenomena of this state are from each other. With respect to the prognostic value of a phenomenon, that is to be determined by the importance of the organ whose morbid state it indicates, the extent and species of the organic change, in case such be present, the degree of functional interruption occasioned by it, and lastly by the nature of the morbid process.

Semeiology, by using its materials in this way and by giving to the phenomena a diagnostic and prognostic signification, forms signs from them. Our author defines phenomenon "every change in the organism tending to disease or even within the boundaries of health, perceptible by the senses of the person observing, or the feeling of the individual observed," whilst he refers the idea of symptom to that which is perceptible in the diseased organs and functions. From the phenomena and symptoms arise signs, when they are related to a present, past, or future morbid state, so that they are connected according to physiological or pathological laws, or even according to mere experience, with some determinate species, course and seat of a morbid process. The discovery of the phenomena is the business of the senses, the formation of signs is the business of the judgment supported by experience, and requires an acquaintance with nosology. This operation has been, not without reason, considered the most difficult, and at the same time the most important in the practice of medicine. We must here observe we do not consider the author has been sufficiently explicit either on the distinction to be made between symptoms and signs, or on the analysis of those symptoms and the intellectual process of converting them into signs. And first with respect to the difference between symptoms and signs, which in medical

writings have been too often confounded, we may observe, the symptom presents itself to the senses of the physician, or of the patient, that is, it is perceptible by the external senses, whilst it is only medical skill, that can translate this symptom into a sign. The perceptions of the senses would be insufficient and almost useless for the study of disease, if the intellectual faculties remained inactive, when the symptoms presented themselves to the senses. Whilst the mere application of sense is sufficient to make us acquainted with the symptoms of disease, the knowledge of the signs of disease is the result of thought and reason directed towards these same symptoms. In a word, the symptoms are in the reach of every one; but the experienced physician alone discovers on examining them the nature and value of the signs.

Galen relates an anecdote which clearly shews the distinction between sign and symptom: he relates that he was at one time dangerously ill, and having overheard two friends of his, who were standing near his bed, discourse of certain symptoms which they had just at that moment observed on him, such as redness of face, haggard, injected, and inflamed appearance of the eyes, &c. he cried out to them instantly to adopt the necessary precautions, as he was threatened with delirium—here Galen's two friends saw the symptoms well enough; but it was only Galen himself who was able to deduce the sign of delirium from them.

Thus we see the knowledge of the symptoms is that which we acquire first in the examination of any case of disease; this knowledge we acquire by the senses. Thus by connecting and comparing these symptoms, and above all, by subjecting them, by the rules of analogy, to our previously-acquired notions of the general course of diseases, of their character, their termination, &c., we deduce from all these combined data consequences and conclusions, which are precisely what are usually and correctly called *signs*.

The conclusions, or signs, may be referred, 1st, to the knowledge of the disease itself, that is, of its nature; these are the diagnostic signs: 2nd, to the knowledge of the probable results; *i. e.* the prognostic signs. But it is only by the process of analysis we can arrive at these results. In the first place, from the number of the symptoms collected by us, we must separate those which are merely accidental from those which are essential. We must also leave out of sight those general or common symptoms which occur in almost all diseases, and which therefore do not characterize any one in particular. For this first operation it is evidently necessary to possess a profound knowledge of the character of diseases, as also of their general history; thus the study of nosology and general pathology must precede any attempt at clinical practice. When by this process of exclusion there remain in the table of symptoms those only which belong to the disease, the next thing to be done is to combine those which may lead to the discovery of the true seat of the lesion; after having done this, we have already made a considerable advance in the diagnosis, as we have now determined the generic name of the disease. We must next seek in the symptoms the essential cause of the disease; that which constitutes its nature and determines the treatment. Our next business is to seek in the combination of the symptoms whether the disease be simple or complex; if complex, to determine the nature of the complication, to judge of its importance, and to ascertain how far the treatment should be influenced by such complication.

Lastly, by combining and comparing the symptoms, by appreciating their absolute and relative severity, by considering their nature, duration, &c., we shall be able to announce the probable issue of the disease. Thus we see the chief, the most important as well as the most difficult task of the physician, consists in discovering with promptness and certainty the nature and value of the signs obtained by the analytical process now described.

History of Semeiology.—Having thus far considered the import of the term semeiology, its sources, method of forming signs from symptoms, and the importance of this branch of medical science, the author next proceeds to sketch its history; in this he establishes three periods; the first dating from the time of the Asclepiades; the second extending down to the general revival of the sciences, when the study of the ancients and of observation again came into vogue; whilst the last commences from the time when pathological anatomy began to obtain influence over pathology in general, and also over semeiology. The custom prevalent among the Greeks of suspending in the temples votive tablets, containing a short description of every particular disease which presented itself for treatment, afforded to Hippocrates the materials for the first work on semeiology; this was the origin of the *Prænotiones Coacæ*, as also of the prognostics and aphorisms of Hippocrates. In the second period of its history, semeiology made but little progress. The sect, called Empirics, from whom one might expect, considering their principles, that semeiology would receive great improvements, did little or nothing for it. Galen, besides recommending the writings of Hippocrates, enriched the science of semeiology by his observations on critical days. Little more was done after this for the science till the commencement of the 15th century—with the exception of some little improvements made by the Arabians, chiefly by their contributions to the signs of individual diseases; ignorance and superstition prevailed during the latter half of this second period, urinoscopy occupying the place of semeiology. The third period produced some excellent writers on the subject of semeiology, who all, it should be observed, were ardent admirers and cultivators of the writings of the ancients. Suffice it to mention Sydenham, Baglivi, and Fr. Hoffmann, who in the 16th and 17th centuries established honorable memorials in the annals of semeiology. The 18th century is distinguished for the great progress of semeiology, which now received considerable improvements by means of some excellent commentaries on the writings of Hippocrates. The principal personages of this period were Van Swieten, De Haen, Stoll, Frank, Grant, Huxham, Jackson, Senac, Tissot, Zimmerman, cum multis aliis. The commencement of the present century has produced some good works on semeiology, as those of Landré Beauvais, Sprengel, Behrend, and Double. The last period in the history of semeiology commences with the share which pathological anatomy took in ascertaining the causes of the several morbid phenomena. By the discoveries of pathological anatomy it now became possible to detect the seat of many diseases. As more accurate experience was now attained regarding the complications of disease, men were able to separate the phenomena in the individual cases according to their various causes, and for every morbid state to find the symptoms peculiar to it. One class of diseases was enriched at this period, namely, those of the heart and lungs, by the splendid

discoveries of Avenbrugger and Laennec. To the writings of these last-mentioned individuals, as well as to those of Bayle, Andral, Lallemand, Ollivier, Louis, Bouillaud, Stokes, Bright, and several others, the science of semeiology stands indebted for the proud station it now holds among the other branches of medical science. Our author next considers the subject of *signs in general*. The several morbid phenomena obtain different semeiological importance, according to the organs and functions by which they are presented, as also according to their strength and duration, and the relation in which they stand to the other phenomena. The signs afforded by the organs themselves (the pathologico-anatomical) form the smallest number. From the external superficial organs we obtain them through the sight and touch, and from those more deeply seated, through touch, percussion, and auscultation. These have great diagnostic value, as the changes in the form, size, and consistence of the organs always point out the seat of a disease. Signs derived from the functions form the chief subject of pathological semeiology; their importance varies with that of the organs whose disturbance they indicate, and its relation to the other organs.

The signs derived from the central organs are far more important than those obtained from the subordinate—the central organs sympathizing as well with those depending on them, as also with one another. Even among the central organs there is a diversity in this respect. The stomach, small intestines, and portal system, sympathize with more organs than the heart and lungs, brain and spinal cord. The stomach and small intestines will accordingly disturb the functions of other organs most in their diseases, and at the same time participate most in the diseases of other organs.

From this relation of the organs to one another, several important principles are afforded for judging of the phenomena observed in their functions. Should the morbid phenomena manifest themselves first in a central organ, and at a subsequent period, in all the other organs, or in most of those depending on it, the disease of the central organ may be inferred, more especially if the sympathetic phenomena rise and fall with those of the central organ. If the morbid phenomena shew themselves in all the organs depending on a central organ, without the latter however evincing any disturbance of function, we may infer that the seat of the disease is in the central organ in question. If they be violent in the organs connected through a central organ, the prognosis is unfavourable.

If the morbid phenomena occur chiefly in the central organ, and less intensely in the subordinate organs, the seat of disease is in the former, and the prognosis is more favorable. * If, together with the central organ, only one of those subordinate to it present violent morbid phenomena, the seat of disease is to be sought in the latter, more especially if, with the increase in the violence of the phenomena in it, those of the central organ diminish. If only one central organ is affected, should the phenomena in it be of a severe character, one may infer disease of an organ sympathetically connected with it; if, on the contrary, the disturbance is not very violent, it may indicate disease of the central organ.

The increase of the sympathetic phenomena accompanied by decrease of those proceeding from the central organ, is a sign that the disease has in this way withdrawn to the organs subordinate to it, and if these are secreting organs, that they will prove critical; if they are not, a local chronic disease

may remain behind. If violent phenomena again occur in the central organs, the prognosis is unfavorable. The more subordinate an organ is, and the nearer it lies to the surface, the more favorable is the prognosis which its morbid phenomena yield. Organs of similar or physiologically-connected functions sympathize in diseases, as also those which are connected by great vessels or nerves. Accordingly in diseases of the one we shall always find phenomena present themselves in the others. In order to determine which is the diseased organ, we have to consider where the morbid phenomena are most intense, and most persevering, and retain their form most constantly, where they first occur, and on what side the dependent organs participate in the disease, or do not. Such is the mode in which we are to proceed, if organs of the same tissue present morbid phenomena simultaneously. In this case also we shall more frequently find both diseased, than only one diseased and the other sympathizing. When the morbid phenomena are violent, they may lead us to conclude that the course of the disease will be rapid. If they are very intense immediately at the onset of the disease, danger is indicated; if they increase gradually till the time of the crisis, the prognosis is rather favorable. If they have become moderate after the crisis, and then increase *de novo*, a return of the disease is to be dreaded. If the phenomena decrease in severity after the crisis, the transition to cure is denoted, or if they continue a long time in a slight degree, the disease has passed to the chronic form. Slight, indistinctly expressed phenomena belong partly to the precursors of acute disease, whilst they are partly signs of a chronic course and of great obstinacy. The greatest intensity of the phenomena is not always at the seat of disease, those which are sympathetic being often much more violent than those proceeding from the diseased organ itself. Great severity in the phenomena in some subordinate organ warrants us more in inferring disease of the central organ, than if these phenomena had presented themselves in a slighter degree. The duration of the phenomena is of considerable importance with respect to diagnosis and prognosis. The more persevering the phenomena are, the sooner may we admit the seat of them to be in that organ which manifests them. Long duration of a phenomenon indicates great obstinacy, and warrants us in predicting continued organic changes. Alternation of the phenomena in one and the same organ indicates a rapid course. If, on the contrary, passing phenomena present themselves now in this, now in that organ, we either have to do with a morbid process which is wandering in its nature, or some central organ is the seat of the affection. If some phenomena have obstinately continued for a long time in the same form, and at length some change occurs in them, one may expect a termination of the disease. If the change is more favorable than the previous state, a hope of convalescence is afforded. The longer time favorable signs continue, the better is the prognosis. Among the forms which a functional disturbance may admit, that of exaltation is the most favorable for prognosis. Phenomena depending on exaltation of the functions indicate at the same time the simplest form of disease, a rapid course, and the participation of a limited number of organs. Diminution or total suspension of a function indicates a long duration of the disease, and depends on a serious disturbance of the organ in question or on a modification of the nervous influence

proceeding from the nervous centres, or on a change in the blood. The perversion of a function, where this no longer is performed according to physiological laws, is always a sign that the nervous system has lost its normal influence over the affected organ. The relation of time, in which the newly-occurring signs stand to the signs already present, is of the greatest moment in judging of the former. Violent morbid phenomena are not dangerous about the time of the crisis. If the critical precursors come before this period, and do not bring relief, they are of bad import. If the intensity of the morbid signs diminish according to the critical movements, the prognosis is favorable; if, in acute disease, after this diminution, new symptoms differing from the first present themselves, metastasis is to be dreaded. Diminution of the phenomena in number and intensity is a favorable sign at every period of the disease. If at the time of the crisis several peripheric organs, or organs opening externally, give signs of increased activity, it is more favorable than if this happen only in one organ. A concordance of the phenomena with respect to form is of great importance with regard to prognosis. Favorable phenomena yield a good prognosis only when they harmonize. A single bad sign in the midst of a series of favorable signs makes the prognosis unfavorable. Perversion of a function with signs of exaltation of the same is bad, but still more so, if to the signs of depression those of perversion be joined. If, on the contrary, during the existence of signs of diminished activity, some increase of the same is observed in all the organs attacked, we may hope for a favorable issue. But if this increase does not follow uniformly in all the affected organs, but whilst the activity of one organ is increased, that of another diminishes, we are not yet to expect the termination of the disease. If the activity of peripheric organs, especially secreting organs, increases, whilst that of the secreting organs be depressed below the natural standard, the disease is to be considered dangerous. If the relation be reversed, the disease is still at the commencement, and in the stage of crudity. In case of a favorable issue the activity of the peripheric organs should increase, and that of the central organs should gradually approximate to the normal state. A contradiction in the signs of the central organs is bad, particularly between the signs afforded by the vascular and nervous systems. Want of harmony in the signs of several part of the body is of unfavorable import. Having now followed our author through the first part of his work, in which he treats of *signs in general*, we come to the *special part*, which he divides into nine chapters; the *first* containing signs derived from the *nervous system*, as from the sensitive and perceptive faculties, and from the higher intellectual functions—the *second* treats of the signs derived from the *senses*. The *third* considers the signs derived from voluntary motion and its organs. The *fourth* treats of signs derived from the *vascular system*. The *fifth*, those derived from the *respiratory organs*. The *sixth*, those from the *skin*. The *seventh*, those derived from the *urinary organs*. The *eighth*, those from the *digestive system*; and the *ninth*, those from the *generative organs*. We shall now present our readers with some extracts from his last chapter, namely, that which treats of the signs derived from the generative organs.

SIGNS FROM THE PARTS OF GENERATION.

Signs from the Male Parts of Generation.—The retention of the male genital parts in the development of the body is a sign of a general state of disease interfering with and impeding nutrition, more especially of scrofula, of diseases of the stomach, lungs and brain. Extraordinary size of the penis is a sign of sexual excesses, in boys it is a sign of onanism, of calculus in the bladder, and of chronic diseases of the portal system. Unusual smallness of the same organ, and long-continued dependence of the scrotum, indicates partly local debility of the genitals after violent and repeated excesses in sexual enjoyment, and after onanism, whilst it sometimes indicates general debility of body. Those cases of smallness of the penis must be distinguished from those instances where a portion of its skin is involved in hydrocele or scrotal hernia. In violent pains in the abdomen the penis appears to be extremely small. Clear, transparent vesicles grouped on the prepuce and glans, followed by desquamation in thin, small, flat scales, and which sometimes occasion excoriations, which also form groups, are a sign of herpes præputialis. Pustules which subsequently change into elevated, thick crusts, ulcers on the penis and scrotum, and excrescences on the genital parts, are of syphilitic origin. Parts somewhat elevated which secrete small thin scales, without having been preceded by vesicles, are a sign of psoriasis. They appear on the scrotum and penis, generally however at the same time on other parts of the skin. Very small transparent vesicles which at a subsequent period run into an inflamed smarting surface, constantly secreting scales or serum, indicate eczema. If the fluid of the vesicles at first clear, then becomes turbid, the disease is eczema impetiginoides. Lastly the scrotum is the favourite seat of chimney-sweepers' cancer.

The want of testicles indicates cryptorchy and impotence. Their being drawn towards the inguinal ring occurs in violent pains in the abdomen, more especially in inflammation of the bladder, nephritis calculosa, stone in the bladder, in neuralgia ileo-scrotalis, and in cramps. Swelling of the scrotum indicates rupture, when it is drawn into the open inguinal ring, is replaceable, and a rumbling noise is heard on attempting to replace it. We shall be warranted in concluding that the case is hydrocele, if the swelling has commenced at the bottom of the sac, if it be tense and transparent, if there be fluctuation; if it occasion no pains, at least in its advanced stage, and is connected with no signs of indigestion.

If the tumor consists of soft compressible cords and diminishes in the horizontal position, it is varicocele. If a swelling of the epididymis is composed of several small vermiform cords, painful on pressure, and if it has commenced with a feeling of pressure and tension, it is spermatocele. A hard, uneven, knobby tumor with lancing pains, characterizes scirrhus of the testicle. A uniform, painless, large tumor, simulating fluctuation and running abruptly into the abdomen, indicates the existence of medullary sarcoma (Markschwamm). A heavy, uniform, painless tumor of the form of the testicle and without being continued to the spermatic cord and into the abdomen, indicates sarcoma of the testicle. Inflammation of the testicle, and the consequent induration, thickening and serous infiltration of the cellular tissue of the scrotum, effusion of pus, or of blood into the same, a

varicose state of the scrotum likewise occasion tumors, which are distinguished from the above as well by the history as by the accompanying phenomena and the feel. The testicle sometimes swells in consequence of metastasis, as for example, in parotitis, typhus, &c.

Want of erection occurs in impotence, in general debility, in diabetes, and in some chronic diseases of the brain. Moderate erections indicate in fever patients the commencement of convalescence. Too frequent erections when the external occasions are inconsiderable, and even without any such, are a sign of irritation of the sexual organs through onanism, or sexual abuses, or through inflammation and ulceration on the penis, or irritation occasioned by stone in the bladder, acrid urine, and ascarides of the rectum. Continued erection (priapism) is sometimes the consequence of deficient seminal secretion; it is however most commonly occasioned by catarrhs, inflammations, and hæmorrhages from the bladder, stones in the bladder and kidneys, by gonorrhœa; it has also been observed in diseases of the cerebellum, in epilepsy, hypochondriasis, erotic melancholy, and in many cases of acute diseases attended with great debility.

It becomes painful in cases where inflammation of the penis, or bladder or where gonorrhœa is the cause, more especially when the concavity of the penis looks downwards (chordée).

The secretion and excretion of semen presents several deviations from the normal state. Deficiency in the seminal secretion is a sign of atrophy of the testicle, of disease of both testicles, and of impotence. Excessive seminal secretion is a sign of plethora and of irritation of the genitals. Involuntary discharge of semen by day, without erection, during riding or whilst evacuating the rectum or bladder, is a sign of debility of the genitals and of dilatation of the ejaculatory ducts. In tabes dorsalis it gives an unfavourable prognosis. Discharge of semen at the commencement of an erection is a proof of debility of the genital organs, as it is produced by sexual excesses.

Defective ejaculation of the semen is a sign of debility of the genitals, or of mechanical obstructions, as strictures of the urethra, narrowness in the orifice of this canal, hypospadiæ, &c.

Want of sexual desire is natural at the commencement of all acute diseases, it is further produced by degenerescences and atrophy of both testicles, by great debility and cerebral disease.

Signs from the Female Parts of Generation.—The female genital parts are much more intimately connected with the entire system than the corresponding parts in the male. Whilst the latter stand in close relation only to the nervous system, an intimate reciprocal action is found to exist in the female genitals with the sanguineous system and the system of nutrition. The signs which may be obtained from them, may be referred to the condition of the organs, the sexual inclination, and the secretions from the female genitals.

A retardation in the development of the female genitals after puberty is either a sign of deficiency or atrophy of the ovaries, or it is occasioned by chronic diseases, particularly scrofula and rachitis.

A proportionally too wide vagina is a sign of onanism, of the fact of coition having taken place, of the births of children, of prolapsus of the vagina and uterus. Ulcerations and warty excrescences are a sign of syphilis: eczema and psoriasis also come on the female genitals. Swelling of the

labia may be occasioned by inflammation (sometimes the result of metastasis in the erysipelas and parotitis) by œdema, extravasated blood, &c.

Uneven hardness of the cervix uteri indicates scirrhus; ulcers indicate syphilis, scrophula, and cancer of the same. Pain on touching the part, elevated temperature and great softness, are signs of metritis. When the uterus is in a state of inflammation, it presents an increase of weight, but in a higher degree however in degenerescences, morbid growth, and in pregnancy.

If the os uteri is round, there is a morbid tumor on the cavity of the uterus unless pregnancy or menstruation be the cause. If a body presses forth from it, this, unless parturition is commencing, must be the retroverted uterus, or polypus. Fungous growths at the os uteri are a sign of cancer. The changes in the direction of the cervix uteri denoted dislocations of the uterus. They are occasioned by relaxations of the ligaments of the uterus, degenerescences at the fundus of the organ, and pressure from some neighboring organ in a state of degenerescence.

Menstruation affords at its commencement, by the accompanying phenomena and the quantity and quality of the secretion, very important signs. A too late appearance of this secretion may be occasioned as well by chronic diseases as by a laborious mode of life. Too early occurrence of menstruation is a proof of an early perfection of growth. If its appearance is too long retarded, either an organic malformation, such as absence of the uterus, imperfect vagina or of the os uteri, or great debility must be the cause.

If the menstruation be accompanied with great pain, spasms, nausea and vomiting, there is present either a local morbid state of the sexual organs, as degenerescence of the uterus, considerable narrowing of the vagina, chronic inflammation and degenerescence of the ovaries, or hyperemia of the intestinal canal, the liver and spleen are enlarged, or finally general debility may be the cause of the painful menstruation. Morbid retention of the menses occurs in most diseases affecting the entire system, particularly in fevers, then in inflammations, in diseases also accompanied with spasm, in tubercles of the lungs or of the intestinal canal, also in metritis, in degenerescences and morbid growths affecting the internal genitals. Retention of the menses may be followed by congestions to other parts, more especially to the intestinal canal, to the lungs and to the brain, which may ultimately give rise to inflammation, hemorrhage, morbid secretions, and disturbances of the nervous system. The consecutive states occur in a much more acute form in suppression of the menstruation.

Thick, dark menstrual blood is a sign of disturbance and plethora of the intestinal canal, engorgement of the spleen, disease of the portal system, unless it acquires this property by retention of the discharge. It is pale and thin in chlorosis, anæmia, phthisis, and dropsy. The secretion is scanty in the lower grades of those diseases which occasion amenorrhœa, and also in hyperemia of the intestinal canal, in what are called infractions and in hemorrhoids. Too profuse and too long-continued menstruation is a sign of plethora, of increased vitality of the sexual organs, at the expense of the other organs, or of great debility of the same; it is critical in metritis, it is also observed in intestinal inflammations, in chronic inflammation of the ovaries, and in ulceration of the uterus. It may be followed by abortion in

pregnancy, also by hysteria, degenerescences of the generative parts, more particularly of the ovaries and uterus.

We shall now close our analysis of this work, not however without expressing how much we have been gratified by its perusal. The merits of the book, and the great desideratum of such a work in our own language, render it not improbable that we shall see this manual ere long in an English dress.

THE LIFE OF EDWARD JENNER, M.D., LL.D., F.R.S., &c. &c.
WITH ILLUSTRATIONS OF HIS DOCTRINES, AND SELECTIONS FROM
HIS CORRESPONDENCE. By *John Baron*, M.D., F.R.S., &c.,
&c. In two Volumes, 8vo. Colburn, London, 1838.

OF all species of composition, biography, perhaps, best combines amusement with instruction. It seems to annihilate space and time, and makes us the companions and the confidantes of the illustrious dead. Stripped of the sock, the buskin, and the mask, in which they have been disguised on the stage of history, biography exhibits them behind the curtain, attired like ordinary men, and surrounded with all the common-places of humanity. We cannot wonder that our curiosity should be vividly excited, to learn how beings, who appear through the mist of years and from the elevation of their fame, so superior to ourselves, behaved, at the social board or the family circle, as the neighbour, the husband, or the father.

Did biography, however, go no farther than this, we should hesitate to admit its claims to furnishing a high order of instruction. It would gratify an amiable curiosity, and do little more. It is when conspicuous merit is made familiar, and by its familiarity is rendered a practicable object of imitation, that biography grows really useful. Its highest and its legitimate office is to paint the progress of industry, the rewards of genius, the necessity for good conduct, and the effects of bad. The virtues of one man are thus made to prompt posterity to excellence, and the moral lesson has the double advantage of doctrine and of illustration, of abstract truth, and of positive matter of fact.

The life of a man who has benefitted humanity, by discoveries in science, is the best commentary on the history of science itself. It shews the gradual manner in which truth has been detected or confirmed, and making us acquainted with its slow though steady advance, teaches us to persevere in the face of difficulties and amidst apparent defeats. Can any lesson be more noble, can any be more valuable than this? Biography gives an immortality to virtue, due to it as a reward, politically presented to it as an example; its praises become a cheap retaining fee, given by the world to the good and great, for securing to itself their services.

These reflections were excited, by a glance at the biography of Jenner. We see in him the combination of the virtuous and the scientific benefactor of his species, and while he forms an epoch in the history of the world, generations yet unborn and unprotected by his knowledge, will learn that

the man to whom they owe their lives,' was unblemished in his own—and that while his science will give them the physical benefits of existence, his example can teach them how to render that existence a moral and a social blessing. In short the history of Jenner is the history of a good man, of a great discoverer, of an ornament to our profession, and of one of the causes which have elevated us from the low rank of disputatious empirics in which we had for centuries been lost. It is a duty to the profession to make such a history known, to hold up such an example, to seize the opportunity of confirming the noble sentiments of the old amongst us, and of instilling them into the young.

Dr. Baron is well qualified from reputation and talent to be the biographer of Jenner. Our readers will perceive that he is also qualified by opportunities.

"This work has been composed from materials of the most authentic description, the whole of the notes and correspondence of Dr. Jenner having been put into my hands by his executors. My close and unreserved intercourse with him, and my intimate knowledge of his sentiments and habits of thinking on all subjects during the last fifteen years of his life, probably induced them to believe that I was not an unfit person to draw from such sources an accurate delineation of his character and opinions.

Many reasons, with which I need not trouble the public, would have induced me to shrink from the labours of such a work; and nothing certainly could have reconciled me to the attempt had I not been influenced by the most sincere veneration for the name of Jenner, and by the conviction that the confidence with which he honoured me *did* afford me the facilities for acquiring an insight into his feelings and motives, by which I have been enabled to speak without hesitation or doubt on all those points that most concerned either his conduct as a man, or the nature of his doctrines.

Notwithstanding these encouragements, I cannot but own that I have entered upon this undertaking with a degree of anxiety in which I can scarcely expect any to sympathize. I trust that I am not deceiving myself when I say that nothing of a personal nature prompts this avowal. It is of moment that a true and faithful portrait should be drawn of so distinguished an individual; that those, who have admired and extolled him as a great benefactor of our race, may know that on many other grounds he was worthy of their highest regard and warmest affection. It cannot be expected that there should be an uniformity of sentiment in momentous questions of a professional or scientific nature, but I shall ever have cause to lament if, through any defects of mine, the kindness, the rectitude, the consistency, and the unextinguishable ardour and devotedness of Jenner in a glorious cause do not shine conspicuous, in every act of his long and laborious life.

On a knowledge of these things my pretensions as his biographer chiefly rest. If I have failed in imparting that knowledge I shall have a cause for regret which no deficiency in any other part of my design could occasion. The world at large has felt and acknowledged the blessings of his great discovery; but few are aware how numerous were his claims to admiration." *Introd. xi.*

"The private history of Jenner and of his labours could only be fully derived through those channels of information which have been open to me. I have selected such facts as are for the most part new, I believe, to the public. In order to authenticate the narrative, and to impart to it that spirit which original documents alone can give, I have embodied such as appeared to me most interesting in the text. I have preferred this method either to that of printing them as an appendix, or in the form of notes. One of the chief reasons for this decision arose from the nature of the transactions that I was called on to record. Many

of them regarded the conduct of individuals; and I saw no method of escaping charges of partiality or unfairness except by bringing forward proofs that cannot be denied, and which will show that I have dealt honestly by all. In a question which has in a peculiar degree excited strong feelings, both with the public and in the profession, I can scarcely hope to have written on all occasions, so as not to have called up recollections of an unpleasant kind in the minds of some. However this may be, I trust it will be apparent that truth and moderation have guided me throughout the whole work." xix.

Dr. Baron observes a little farther on:—

"For almost all his early letters I am indebted to his friend the late Edward Gardener, of Frampton-upon-Severn, who bequeathed them to me on his death-bed. These, together with those addressed to myself form a series which touches on almost every subject of interest, whether of a public or domestic nature, during the last forty years of his life.

I have also had letters and extracts of letters transmitted to me by Colonel Berkeley, Thomas Paytherus, Esq., Henry Hicks, Esq., James Carrick Moore, Esq., Charles Murray, Esq., and Henry Jones Shrapnell, Esq., to all of whom I beg to return my thanks.

Animated as I have been by the most ardent and devoted attachment to the memory of Jenner, it cannot be expected that I should either repress my feelings or employ cold and measured language to mark my sense of the value of his labours, and the importance of their results. I can scarcely expect that my reader will go along with me on all such occasions, but I *do* indulge the hope that he will see reason to forgive that warmth in which he may not be able to participate. Jenner's nature was mild, unobtrusive, unambitious; and many who have done justice to his discovery have still to learn how beautifully the singleness of his heart and his genuine modesty graced and adorned that splendid reputation which the wonderful consequences of his labours had acquired for him. In every private affair, in every public transaction one principle guided him. The purity of his motives and the disinterestedness of his actions have by no means, yet been duly acknowledged; had those who opposed him and vaccination known how little of selfishness, of vanity or of pride entered into his character, they would, I am persuaded, deeply lament the wounds which they inflicted; and in the place of bitterness and reproach would have found cause for unmixed esteem and approbation." xxi.

Our readers must already perceive that the biographer of Jenner has all the warmth of a friend, and that that illustrious man will receive no sullen nor niggard meed of approbation at his hands. Nor should he at the hands of any man, for his life was devoted to carrying his discovery into efficient operation, and even Howard did not excel him in genuine philanthropy.

In the history of Jenner there are two subjects to attract attention. They are neither strictly separable, nor inextricably entangled. The one is the life of the man—the other the nature of vaccination, its present state, and its future prospects.

The life of Jenner, is, in a great measure, the history of vaccination, it is true. But it is also the history of discovery in general. In it we shall see the force of prejudice, the obstinacy of error, the spitefulness of rivalry; we shall see a good and a great man struggling through bad report to uphold and to disseminate the truth, borne up against the tide of authority, ridicule, calumny, and what is hardest of all to overcome, indifference, by the consciousness of being the bearer of a noble though a contemned boon to his species; we shall see this man triumphant at last, thanks to the truth and to

his own perseverance; we shall see him hailed not merely as the saviour of his country but of the human race; and his victory will read a lesson to industry and genius, that will tell them to disregard obstacles and to laugh at difficulties in the pursuit of noble ends by honest means. The life, then, of Jenner ought to be familiar as household words with our young men.

The scientific history of vaccination, and the questions that depend upon it, are of no slight interest at the present moment. Small-pox has lately appeared in a general, if not in an aggravated form, and vaccination has, unfortunately, failed, in many cases, to offer the security that had been expected from it. Under such circumstances, it becomes an object of the first importance to be intimately acquainted with the nature and properties of vaccination, in order that we may determine what its protective powers are, what portion of its failure is attributable to an inherent imperfection in those powers, and what to an improper mode of performing the process itself.

It would be impossible, in one article, to do justice to the biography and the discovery of Jenner. We shall content ourselves at present with the former, and reserve the examination of the latter to a future, though an early opportunity. In the present article we shall trace the history, and exhibit the most interesting circumstances connected with the life of the man, and we are sure it will neither be an useless nor an unpleasing office to exhibit his career.

Edward Jenner was born in the vicarage at Berkely, in Gloucestershire, on the 17th of May, 1749. He was the third son of the Reverend Stephen Jenner, A.M. of the University of Oxford, Rector of Rockhampton, and Vicar of Berkely. His mother was the daughter of the Rev. Henry Head, of an ancient and respectable family in Berkshire. This clergyman once held the living of Berkely, and had, at the same time, a prebendal stall in the Cathedral of Bristol.

Besides his church-preferments, the father of Jenner possessed considerable landed property, the family being of great antiquity in Gloucestershire and the neighbouring county of Worcester. It has produced several eminent men, among whom may be mentioned Dr. Thomas Jenner, President of Magdalen College, Oxford, the immediate predecessor of the pious and learned Dr. George Horne. Jenner's father had been tutor to a former Earl of Berkeley; and the late Earl, his brother the admiral, and, indeed, the whole of that noble house, always evinced a very strong regard to him and to his family. This excellent and devout man was cut off not long after the birth of his son Edward, at the age of 52, in the year 1754. This heavy loss was as much as possible alleviated by the affectionate care and judicious guidance of his eldest brother, the Rev. Stephen Jenner, who brought him up with paternal tenderness.

When about the age of eight years, Jenner was put to school at Wotton-under-Edge, under the Rev. Mr. Clissold. He was next placed under the tuition of the Rev. Dr. Washbourn at Cirencester, where he made a respectable proficiency in the classics, and laid the foundation of some of those friendships which continued throughout life. In the lives of men who attain eminence, we often find, and we are always disposed to look for, indications of that eminence at an early period. We discover, or fancy that we discover, in the child, precocious tastes or talents; and if we have ceased to

observe the prodigies of former times, the lambent flame or the harmless serpent playing around the young hero's head, and telling of his future greatness, the admiration of friends and the partiality of biographers produce *their* miracles, more accordant with modern beliefs and appetites. We cannot be surprised if Jenner's taste for natural history began to shew itself early, for natural history is easily and pleasantly pursued by the country school-boy. We shall, therefore hear, without surprise, though not the less with pleasure, that before he was nine years of age, he had made a collection of the nests of the dormouse; and when at Cirencester, he spent the hours devoted by the other boys to play or recreation, in searching for fossils, which abound in the oolitic formation in that neighbourhood.

His scholastic education being finished, he was removed to Sodbury near Bristol, in order to be instructed in the elements of surgery and pharmacy by Mr. Ludlow, an eminent surgeon there. On the expiration of his term with this gentleman, he went to London to prosecute his professional studies under the direction and instruction of the celebrated John Hunter, in whose family he resided for two years, a favourite pupil.

At this time Jenner was twenty-one years of age. John Hunter was forty-two. The latter had been about two years surgeon to St. George's Hospital, had for a much longer period established his menagerie at Brompton for the purpose of prosecuting his philosophical inquiries into the habits and structure of animals, and had already secured much of that public confidence which his vigorous intellect finally acquired for him. Fortunately for Jenner, he became the pupil and the friend of a man, not only remarkable for his philosophical spirit, but possessed of the same tastes and prosecuting the same inquiries as those of Jenner himself. Admiration was heightened by congeniality of pursuits, imitation facilitated by similarity of acquirements, and every thing conspired to render the genius of Hunter of service in determining the career of the future discoverer of vaccination. The influence of the preceptor on the pupil is determined by circumstances which are in some degree accidental—by enthusiasm upon both sides, and particularly by enthusiasm operating on minds of a similar stamp, and with similar tendencies. Whoever is familiar with the writings of Cicero must have seen this finely painted in his references to his preceptor Scævola, the Augur. It is especially the case when the object of pursuit is not a passing one, which loses its charms with the alterations of circumstances, but possesses as much permanence as the objects of human pursuit can have. Such an object is philosophic truth, the polar star of noble minds, which shines when the ignes minores of ambition have set, when wealth, and rank, and personal distinction, have been proved by trial to be vain. There can be little doubt of the fact, and none of the excellence of the sentiments contained in the following passage.

The boldness and independence of Mr. Hunter's character produced deep and permanent effects on the minds of all who witnessed them. Jenner, in particular, felt their power; he saw a master-spirit advancing steadily in that walk of knowledge to which he himself was led by all the predilections of his taste, and all the influence of his early habits. He saw a kind, free, and manly nature devoted to the acquisition of science, and putting away from him entirely the selfish and personal considerations, which are too apt

to encumber the researches, and to circumscribe the objects, of less enlightened minds. The heart of Jenner was peculiarly alive to virtues of this kind, and he had moreover an intellect fully capable of appreciating and admiring the other qualities of his master: it was a singular felicity which brought such men together. The pupil not only respected the teacher, but he loved the man; there was in both, a directness and plainness of conduct, an unquenchable desire of knowledge, and a congenial love of truth.

After completing his professional studies in London, he retired from his preceptor's house; but he did not retire from his good-will and affection, nor from his anxious guidance and direction in his scientific pursuits. An uninterrupted epistolary correspondence was kept up between them, till within a short period of Mr. Hunter's death. A very considerable number of his letters have been preserved.

"It was a truly interesting thing," continues Dr. Baron, "to hear Dr. Jenner, in the evening of his days, descanting, with all the fervor of youthful friendship and attachment, on the commanding and engaging peculiarities of Mr. Hunter's mind. He generally called him the 'dear man,' and when he described the honesty and warmth of his heart, and his never-ceasing energy in the pursuit of knowledge, it was impossible not to be animated by the recital, and to perceive that something more than esteem for high intellectual attainments, was required to form that bond of union which, to the last hour of his life, joined the affectionate recollections of the pupil with the memory of the master." 10.

During the time of his residence with Mr. Hunter, in 1771, Captain Cook returned from his first voyage of discovery. The valuable specimens of natural history which had been collected by Sir Joseph Banks, were in a great measure arranged and prepared by Jenner, who was recommended by Mr. Hunter for that purpose. He evinced so much dexterity and knowledge in executing this duty, that he was offered the appointment of Naturalist in the next expedition, which sailed in 1772. But no such offers could tempt young Jenner from his birth-place, endeared to him by the ties of kindred, of habit, and of taste. The religious mind will perceive, and probably with truth, the special interposition of Providence in this. Be that as it may, young Jenner returned to Berkeley, where he rapidly acquired a practice and a reputation which seldom wait upon youth. Yet the labours of the former and seductions of the latter were unable to draw him from his favourite pursuits, and he collected specimens in natural history, and made preparations in comparative anatomy with equal assiduity and success.

"About this period an incident occurred, which might have dis severed his connexion with his native country. He was dining with a large party at Bath, when a question arose whether the temperature was highest in the centre of the flame of a candle, or at some small distance from its apex. Various opinions were delivered, but Jenner, with his usual ingenuity and readiness, soon settled the dispute. He placed the candle before him, and inserting his finger into the middle of the flame, he retained it in this situation for a short time. He then placed it a little above the flame, but was compelled immediately to withdraw it. 'There, gentlemen,' he observed, 'the question is settled.'" 12.

Jenner must have been something of the salamander, if this anecdote is to be taken *sine grano salis*. How the finger is to be got into the middle of the flame, without first passing through the side, is a question not readily answered. And if any body will try to put his finger into the middle of a

candle's flame, we fear he will not keep it there long enough to resolve philosophic doubts upon the hottest part of it. We can answer, at all events, for ourselves, and, for curiosity's sake, we have made the experiment. However, Jenner displayed on this occasion, says his biographer, so much talent, that a gentleman of the party offered to procure him an appointment of emolument and distinction in the East Indies. The gentleman thought, probably, that a man who could keep his finger in a flame was very well adapted for a hot climate. But Jenner refused to go.

Dr. Baron dwells with pleasure on Jenner's love of the picturesque, on his manners, his kindheartedness. But the affection of the biographer consecrates details that seem unimportant in the eyes of others, and scarcely carry conviction along with them. The following sketch of Jenner's personal appearance at this period, may perhaps be attended with more general interest.

"His height was rather under the middle size, his person was robust, but active, and well-formed. In his dress he was peculiarly neat, and every thing about him showed the man intent and serious, and well prepared to meet the duties of his calling.

When I first saw him it was on Frampton Green. I was somewhat his junior in years, and had heard so much of Mr. Jenner of Berkeley, that I had no small curiosity to see him. He was dressed in a blue coat and yellow buttons, buckskins, well-polished jockey boots, with handsome silver spurs, and he carried a smart whip with a silver handle. His hair, after the fashion of the times, was done up in a club, and he wore a broad-brimmed hat.

We were introduced on that occasion, and I was delighted and astonished. I was prepared to find an accomplished man, and all the country spoke of him as a skilful surgeon, and a great naturalist; but I did not expect to find him so much at home on other matters. I, who had been spending my time in cultivating my judgment by abstract study, and smit from my boyhood with the love of song, and sought my amusement in the rosy fields of imagination, was not less surprised than gratified to find that the ancient affinity between Apollo and Esculapius was so well maintained in his person." 16.

In Jenner, as in many men of genius, philosophic tastes were blended with convivial qualities; and a warm imagination not inconsistent with the former, lent a zest, and gave an intellectuality to the latter. Had this not been so, Jenner could not have become so general a favourite as undoubtedly he was. His biographer subjoins several specimens of his poetic compositions. We shall introduce one. Though not of the very highest order, it still displays a good deal of spirit, some naiveté, and a fair power of versification.

. "ADDRESS TO A ROBIN.

IN ANSWER TO ONE BY CAPTAIN SNELL.

Begone this instant from my door !
 Nor plague me with thy canting more.
 Hop off ! I say, nor in this place
 Dare show thy hypocritic face.
 Pray do'st thou think, ungrateful fellow,
 Because thy voice is somewhat mellow,
 Or that thou hither com'st assuming
 A kind of modesty in pluming;
 Wilt thou allure me, whining beggar ?
 Or my true notions of thee stagger ?

Have I not seen thee, sturdy ruffian,
 With impious claw thy father cuffing ?*
 Seen thee, thou vile impostor, blackguard,
 With many a blow thy mother smack hard ?
 Strip from her back the downy feather,
 Spite of inclemency of weather ;
 Nay, threaten her with instant killing,
 If thy full platter she put bill in :
 Why then how dar'st thou thus from me
 To ask for hospitality ?

Disdainful wretch ! when smiling Spring
 Bids every bird tune up and sing,
 Though the sweet orchestra should want ye
 To take a part, a soft andante,
 The lark, who leads the band, in vain
 Solicits thy assisting strain,
 For slyly thou leav'st all their chanting,
 Deep in the woods to go gallanting.

Long have I known thy ready knack 'tis
 A thousand wily tricks to practise.
 Did'st thou not use deception vile
 A bard† to cozen and beguile,
 Draw by a kind of *hocus pocus*
 His rays poetic to a focus,
 Then craftily divert the flame
 To blaze upon thy worthless name ?

Think'st thou I know not, rogue ungrateful,
 Of mischief thou hast got a pateful ?
 Do qualms of conscience ne'er molest thee ?
 No retrospective thoughts infest thee ?
 Hast thou not entered farmer's houses,
 Annoying oft their lawful spouses ?
 Deform'd their butter, peck'd their cheese,
 And robb'd them of their market fees ?
 Though ne'er did they deny thy asking,
 (Villain, a hypocritic mask in !)
 But ever ready were to pour
 Around thy head the crumby show'r.
 And pray another thing—but 'sdeath !
 Why do I thus consume my breath ?"—
 Once more I say, Hop off !—hoh ! hoh !
 'Tis well thou thought'st it time to go :
 And this I tell thee, little blade,
 If ever on my palisade
 Again I catch thee—by the law
 Thy grave shall be Grimalkin's maw."

Jenner was an epigrammatist. Here is one of his jeux d'esprit.

ON THE DEATH OF AN OLD WOMAN NAMED HEYWOOD.

Not remarkable for having led an exemplary life.

Tho' some may exclaim "Twas strange, or 'twas cruel,
 Yet 'tis said to be true ; Old Nick wanting fuel,
 Gave an order for faggots well-seasoned and good ;
 So death took his hatchet, and cut down Hay-wood."

* "Unum arbustum non alit duos Erythacos."

† Captain Snell.

Jenner was very fond of music, and was a member of a catch-club that met at Cam. He could play, and occasionally did so at parties, on the violin and flute. He had a particular dislike to cards. Between the years 1773 and 1783, Jenner was occupied with the duties of his practice, with commissions from John Hunter, with the prosecution of some researches in natural history, and on fossil bones, and with the amusements of his convivial hours. During this period letters appear to have been continually passing between Hunter and himself. His letters to Hunter are lost, those from Hunter to him have been preserved. Dr. Baron presents them to the public, and as they throw light on the pursuits of these eminent men, as well as on the character of Hunter, they are interesting. We cannot attempt to quote all these letters, but we may extract a few passages from them. They are decidedly favourable to Hunter as a letter-writer. The ease, and in some instances the pleasantry of the style contrasts very strongly with the laboured and inflated character of his published works.

In one letter we find the following evidence of the good understanding existing between them:—

“This evening, looking into my book of patients, to scratch out the name of one who had just paid me, and whose name began with an M, I saw a Mr. Matthews, of Berkeley, recommended by you. He did not pay me. I forget whether he was recommended by you as a friend, to serve him, or me: if it was to serve him, I scratch him out of my book. Do you keep an account of the observations of the cuckoo; or must I refer to your letters?—I want a nest with the egg in it; also a nest with a young cuckoo, and also an old cuckoo.

I hear you saying there is no end to your wants.

Ever yours,

JOHN HUNTER.”

It appears that Hunter had entertained a design of establishing a school of natural history on an extensive scale. He intended teaching natural history in conjunction with human and comparative anatomy. This implied assistance, and he turned to Jenner. The latter was required to go to London and to pay down a thousand pounds. Jenner declined, and Hunter afterwards abandoned the scheme.

In May 1777, Hunter casually communicated to Jenner the commencement of that illness which sixteen years afterwards carried him off. In the latter end of the year, Hunter was compelled to seek relief in the mild atmosphere of Bath. There Jenner saw him, was shocked, and concealed his sentiments from Hunter, but wrote the following letter to Dr. Heberden. The letter deserves notice, because, in it, Jenner first puts forward that theory of the cause of angina pectoris, which has received more credit, than, in all probability, it really merits.

“E. JENNER, TO DR. HEBERDEN.—1778.

Sir—When you are acquainted with my motives, I presume you will pardon the liberty I take in addressing you. I am prompted to it from a knowledge of the mutual regard that subsists between you and my worthy friend Mr. Hunter. When I had the pleasure of seeing him at Bath last Autumn, I thought he was affected with many symptoms of the Angina Pectoris. The dissections (as far as I have seen) of those who have died of it, throw but little light upon the subject. Though in the course of my practice I have seen many fall victims to this dreadful disease, yet I have only two opportunities of an examination after

death. In the first of these I found no morbid disease of the heart, except that the coronary artery appeared thickened.

As no notice had been taken of such a circumstance by any body who had written on the subject, I concluded that we must still seek for other causes as productive of the disease: but about three weeks ago, Mr. Paytherus, a surgeon at Ross, in Herefordshire, desired me to examine with him the heart of a person who had died of the Angina Pectoris a few days before. Here we found the same appearance of the coronary arteries as in the former case. But what I had taken to be an ossification of the vessel itself, Mr. P. discovered to be a kind of firm fleshy tube, formed within the vessel, with a considerable quantity of ossific matter dispersed irregularly through it. This tube did not appear to have any vascular connection with the coats of the artery, but seemed to lie merely in simple contact with it.

As the heart, I believe, in every subject that has died of the Angina Pectoris, has been found extremely loaded with fat; and as these vessels lie quite concealed in that substance, is it possible this appearance may have been overlooked? The importance of the coronary arteries, and how much the heart must suffer from their not being able duly to perform their functions, (we cannot be surprised at the painful spasms) is a subject I need not enlarge upon, therefore shall only just remark that it is possible that all the symptoms may arise from this one circumstance.

As I frequently write to Mr. H. I have been some time in hesitation respecting the propriety of communicating the matter to him, and should be exceedingly thankful to you, Sir, for your advice upon the subject. Should it be admitted that this is the cause of the disease, I fear the medical world may seek in vain for a remedy, and I am fearful, (if Mr. H. should admit this to be the cause of the disease) that it may deprive him of the hopes of a recovery." 40.

With admirable delicacy Jenner refrained from publishing the result of his observations on the cause of the angina, lest Mr. Hunter's attention should be drawn to it, and his alarm should be, in consequence, greatly aggravated. As it turned out, Mr. Hunter *had* ossification of the coronary arteries.

About this period Jenner was instrumental in forming a society having for its object the improvement of medical science. Dr. Parry, of Bath, was among the members. The paper of the former on angina pectoris, which forms the ground work of the book of the latter on the subject, was read at one of the meetings. Jenner also communicated other papers. They fell into the hands of some of the members, and he could never recover them. He regretted the loss of one of them particularly. It contained, says Dr. Baron, observations respecting a disease of the heart, which frequently comes on during attacks of acute rheumatism, and leads to enlargement and disorganization of the part. This formidable disorder had very much escaped the notice of medical men. Jenner's observations were original, and had they been published at the time they were first communicated to the society, his claims to priority could not have been set aside as they have been since that time by other writers.

Jenner was also a member of another society, which assembled at the Ship at Alveston near Bristol. This he called the Convivio-Medical Society, in opposition to the other—the Medico-Convivial. A curious circumstance is mentioned in relation to this Society. Nothing, however, is more probable than that a set of jovial fellows should vote vaccination a bore.

"Dr. Jenner has frequently told me that at the meetings of this society he was accustomed to bring forward the reported prophylactic virtues of cow-pox,
No. 74.

and earnestly to recommend his medical friends to prosecute the inquiry. All his efforts were, however, ineffectual; his brethren were acquainted with the rumour, but they looked upon it as one of those vague notions from which no accurate or valuable information could be gathered, especially as most of them had met with cases in which those who were supposed to have had cow-pox, had subsequently been affected with small-pox. These discouragements, as will be seen more at large hereafter, did not suppress the ardour of Jenner's mind. He often recurred to the subject in these meetings; at length it became so distasteful to his companions, that I have many times heard him declare that they threatened to expel him if he continued to harass them with so unprofitable a subject. This society was in existence so late as 1789." 48.

Dr. Baron alludes, in this place, to a claim which has been advanced for Mr. Fewster, of Thornbury, that *he* was the inventor of vaccination. On this head, Dr. Baron makes the following statements.

"That gentleman in his early days was associated with Sutton in the practice of small-pox, inoculation, and had frequent opportunities of hearing the popular notion that those who had had cow-pox could not be infected with small-pox. He, as has just been said, was one of the members of the medical society which met at Alveston. The subject was often brought before the meetings, but neither this circumstance, nor his own previous acquaintance with the reports of the country, and his experience, that they were not altogether without foundation, could induce him to prosecute their investigation further, or to countenance Jenner's efforts. On the contrary, he certainly undervalued them, and continued to do so even after the inquiry was published. In a letter to Mr. Rolph, surgeon, in Peckham, dated at Thornbury on the 11th of October 1798, and published in Dr. Pearson's inquiry concerning the history of the cow-pox, he has the following words:—'think it (*i. e.* the cow-pox in the natural way) is a much more severe disease in general than the inoculated small-pox. I do not see any great advantage from inoculation for the cow-pox: inoculation for the small-pox seems so well understood, that there is very little need of a substitute. It is curious, however, and may lead to improvements.'" 49.

This latter passage is conclusive. The passive resistance of Mr. Fewster would never have spread vaccination over the world. There cannot be much doubt upon that head.

Not long after this, Jenner appears to have met with one of those tender disappointments which would seem to be frequently the lot of men of genius. Dr. Baron offers no more explicit account of it than is contained in a jocose letter of Mr. Hunter on the occasion: we are afraid that Hunter will find little favour with the ladies. He seems to have made small-beer of a love affair. Mrs. Hunter, herself, was a very namby-pamby sort of person.

"MR. HUNTER TO E. JENNER.

Dear Jenner,—I own I was at a loss to account for your silence, and I was sorry at the cause. I can easily conceive how you must feel, for you have two passions to cope with, viz., that of being disappointed in love, and that of being defeated, but both will wear out, perhaps the first soonest. I own I was glad, when I heard that you was married to a woman of fortune; but let her go, never mind her. I shall employ you with hedge-hogs, for I do not know how far I may trust mine. I want you to get a hedge-hog in the beginning of winter and weigh him; put him in your garden, and let him have some leaves, hay, or straw, to cover himself with, which he will do: then weigh him in the spring, and see what he has lost. Secondly, I want you to kill one at the beginning of winter to see how fat he is, and another in the spring, to see what he has lost of his fat. Thirdly, when the weather is very cold, and about the month of January,

I could wish you would make a hole in one of their bellies, and put the thermometer down into the pelvis, and see the height of the mercury; then turn it up towards the diaphragm and observe the heat there. So much at present for hedge-hogs. I beg pardon, examine the stomach and intestines. If Hewson's things go cheap, I will purchase some that I think proper for you; those you mention I am afraid will be every body's money, and go dear.

Ever yours,

London, Sept. 25th 1778.

JOHN HUNTER."

Certainly hedgehogs are a novel recipe for disappointed love. They are such, perhaps, as a naturalist might hit upon, but we doubt whether they would be generally efficacious. They do not seem to have succeeded particularly well with Jenner, for, five years afterwards, he writes:—"I am jaded almost to death, my dear Gardner, by constant fatigue: that of the body I must endure; but how long I shall be able to bear that of the mind, I know not. Still the same dead weight hangs upon my heart. Would to God it would drag it from its unhappy mansion! then with what pleasure could I see an end of this silly dream of life."

This sentiment is pretty well for a member of the Medico-Convivial and the Convivio-Medical Societies. Not unfrequently however, persons of a social turn of mind feel disappointments of this description keenly. They are social, because the kindlier feelings of life are necessary to their comfort or their happiness, and the closest and kindest tie of all has peculiar charms for them. The philosopher, absorbed in the contemplation of Nature, looks on the charities and the affections of humanity as an integral part of her scheme, and reasons statistically on the loss of a wife or a child.

Jenner was a collector of fossil remains. He co-operated with Mr. Hunter in his experiments on the hybernation of animals, on the cuckoo, and on various other subjects. Amongst others, he instituted a new formula for the preparation of emetic-tartar, on which Mr. Hunter wrote the following letter.

"Dear Jenner—I am puffing off your tartar, as the tarter of all tartars, and have given it to several physicians to make trial, but have had no account yet of the success. Had you not better let a bookseller have it to sell, as Glass of Oxford did his magnesia! Let it be called Jenner's Tartar Emetic, or any body's else you please. If that mode would do, I will speak to some, viz. Newbury, &c. You are very sly, although you think I cannot see it: you very modestly ask for a thermometer; I will send one, but take care that those d——d clumsy fingers do not break it also."

J. HUNTER."

In the commencement of 1786, Jenner incurred great hazard from exposure to cold. He describes the occurrence very graphically himself.

"January 3d, 1786.—I was under the necessity of going from hence (Berkeley) to Kingscote. The air felt more intensely cold than I ever remember to have experienced it. The ground was deeply covered with snow, and it blew quite a hurricane, accompanied with continual snow. Being well clothed, I did not find the cold make much impression upon me till I ascended the hills, and then I began to feel myself benumbed. There was no possibility of keeping the snow from driving under my hat, so that half my face and my neck was, for a long time, wrapt in ice. There was no retreating, and I had still two miles to go, the greatest part of the way over the highest downs in the country. As the sense of external cold increased, the heat about the stomach seemed to increase.

I had the same sensation as if I had drank a considerable quantity of wine or brandy ; and my spirits rose in proportion to this sensation.

I felt, as if it were, like one intoxicated, and could not forbear singing, &c. My hands at last grew extremely painful, and this distressed my spirits in some degree. When I came to the house I was unable to dismount without assistance. I was almost senseless ; but I had just recollection and power enough left to prevent the servants from bringing me to a fire. I was carried to the stable first, and from thence was gradually introduced to a warmer atmosphere. I could bear no greater heat than that of the stable for some time. Rubbing my hands in snow took off the pain very quickly. The parts which had been most benumbed, fell for some time afterwards as if they had been slightly burnt. My horse lost part of the cuticle and hair at the upper part of the neck, and also from his ears. I had not the least inclination to take wine, or any kind of refreshment.

One man perished a few miles from Kingscote, at the same time, and from the same cause." 73.

Jenner prosecuted some experiments on animal manure, and instituted very careful observations on the habits of the cuckoo. These were published in the Transactions of the Royal Society, and are creditable to the accuracy and patience of the observer. But in 1788, he had an opportunity of studying the habits of a higher animal than a cuckoo—a wife. He married a Miss Catherine Ringcote, a lady to whom he had been long attached, and a member of an ancient and respectable family. On the 24th of January, 1789, his eldest son Edward was born. He appears to have been very happy with his bride for he writes to his friend Gardner—"My place of residence, though unfinished is extremely comfortable ; and I can with truth assure you the last year of my life, dating it from the Month of March, has been the happiest beyond all comparison I ever experienced : and I will take upon me to aver (nay I would swear it) that if you could be lucky enough to connect yourself with a woman of such a disposition as kind fortune has, at last, given to me, you will find a vast addition to your stock of happiness." We are almost tempted to quote some other passages illustrative of Jenner's kindly disposition. But that would, after all, be needless. Every page of his history speaks the same language upon that point. We shall introduce a passage or two illustrative of his good sense in the conduct of life—as important a requisite for success and happiness as any. Writing to a friend of a child, he observes:—"I hear by the captain, you and Mrs. Clinch keep him under no kind of restraint, but indulge him with a full gratification of all his wants and wishes. Let me entreat you both to take care what you are about:—remember the path of life is full of thorns, and if you keep him upon velvet till the day arrives when he must begin to feel their points, think how much more poignant must be his feelings. On this subject one might enlarge, but what I have said I trust will be sufficient to awaken every proper sentiment. I shall only just add that severity to children I utterly abhor, and my observation leads me to consider it as being more injurious to them than the contrary extreme ; but either one or the other is so hurtful to the mind that we feel its baneful effects to the very latest period of our lives."

Jenner's experience coincided with that of most of us when he remarked—

"Henry is much as you left him, the same simple, inoffensive lad, and indeed, I think as boyish almost as ever ; and though his mind is stored with ideas tha

do him the greatest credit, yet his general appearance and manner is so very *fifteenish*, that a poor mortal on the bed of sickness will hardly look up to him with that eye of confidence and hope that might safely be placed in him. For it is by appearances, my dear friend, not from a real knowledge of things, that the world (at least the major part of them) form a judgment. A look of significance, a peculiar habit, and a very scanty acquaintance with the human machine will make a man pass current for a great physician. This you and I know to be an unfortunate fact; while, without these auxiliaries, a man with the knowledge of the *hall* and *college* concentrated will be looked upon as a mere pretender." 92.

In a newspaper criticism on Mr. Pettigrew's *Lives of eminent Physicians and Surgeons*, the sagacious editor observed how much more scientific the ancient physicians looked than the modern. Our predecessors wore large wigs, carried ponderous canes, shook their heads dismally, and indulged in the dead languages. Of course they must have possessed more medical science than ourselves.

Mr. Hunter died on the 12th of August, 1793. He happened to *have* that ossification of the coronary arteries, on which Jenner had not ventured to touch, with his valued preceptor and friend. The fatigues of general practice having become irksome to Jenner he resolved to abandon one branch of it, and to confine himself to medicine. With that view he obtained in 1792 a degree of Doctor of Physic from St. Andrew's. Towards the conclusion of 1794, he was attacked with typhus fever, a complaint to which he appears to have been prone, and nearly sank under it.

In the Spring of 1794, he performed his first inoculation of the *variola vaccina*, and in the course of the year 1797, he had nearly arranged every thing for the publication of his *Inquiry*. The history of vaccination becomes from this time the history of Jenner. We shall only go into the former far enough, to exhibit the progress of most great discoveries, and to shew the time and labour consumed in rendering the world sensible of the acquisition of a valuable boon. Such a history is always useful. It stimulates the dull, animates the quick, and encourages young minds, which are too apt to be disheartened at the depth of the well in which truth lies hid, and the labour of bringing it up. It is a pleasant task to do justice to the dead, and at the same time to encourage the living, to honour departed genius, and to nurse the coming. And a sketch of the history of vaccination will do this.

The attention of Jenner was drawn to the nature of cow-pox while he was yet young. The student's mind contained the germ of the discovery of future years, and the seed of immortality was early and simply sown.

"He was pursuing his professional education in the house of his master at Sodbury: a young country-woman came to seek advice; the subject of small-pox was mentioned in her presence; she immediately observed, 'I cannot take that disease, for I have had cow-pox.' This incident rivetted the attention of Jenner. It was the first time that the popular notion, which was not at all uncommon in the district, had been brought home to him with force and influence. Most happily the impression which was then made was never effaced. Young as he was, and insufficiently acquainted with any of the laws of physiology or pathology, he dwelt with deep interest on the communication which had been casually made known to him by a peasant, and partly foresaw the vast consequences which were involved in so remarkable a phenomenon. He was the more stimulated to meditations of this sort by frequent opportunities of witnessing the ravages of small-pox; and by retaining the most vivid and painful recollections

of the severe discipline which he himself had not long before passed through, preparatory to his inoculation for that disease. 'There was,' to use his own words, 'bleeding till the blood was thin; purging till the body was wasted to a skeleton; and starving on vegetable diet to keep it so.' The possibility of averting such evils could not arise in a mind like Jenner's without possessing it fully; and he resolved to let no opportunity escape of acquiring knowledge on so important a subject." 123.

He mentioned it to John Hunter. The latter was not a man to throw cold water upon scientific discoveries. His attention was too much occupied with inquiries of his own, to permit him to do more than to listen to Jenner. And he made known Jenner's opinions, as well as the Gloucestershire traditions, to his pupils in his lectures, and to his friends in conversation. And he encouraged Jenner to put the matter to the test of experiment. "Don't *think*," said Hunter, "but *try*; be patient, be accurate." A golden sentence, comprising all the spirit of genuine philosophy. But others did throw cold water on the embryo investigation, and more than the members of the Medico-convivial Society voted it a bore. In 1780, the following circumstances occurred.

"He was riding with Gardner, on the road between Gloucester and Bristol, near Newport, when the conversation passed of which I have made mention. He went over the natural history of cow-pox; stated his opinion as to the origin of this affection from the heel of the horse; specified the different sorts of disease which attacked the milkers when they handled infected cows; dwelt upon that variety which afforded protection against small-pox; and with deep and anxious emotion mentioned his hope of being able to propagate that variety from one human being to another, till he had disseminated the practice all over the globe, to the total extinction of small-pox. The conversation was concluded by Jenner in words to the following effect:—'Gardner, I have entrusted a most important matter to you, which I firmly believe will prove of essential benefit to the human race. I know you, and should not wish what I have stated to be brought into conversation; for should any thing untoward turn up in my experiments I should be made, particularly by my medical brethren, the subject of ridicule—for I am the mark they all shoot at.'" 129.

How striking a lesson does this short speech of Jenner's read—how chastening to human intellect. The mention of the greatest benefit that has ever been conferred upon humanity was generally pronounced a nuisance—the whole subject was a joke—the author of it a butt. How chary should we be in the use of ridicule, as a means of determining philosophic truth—how suspicious of our powers of resolving at once the real value of new facts or strange opinions.

We shall not pursue the investigations, the doubts, the confirmations of Jenner. They led him at last to the belief, all but assured, of the powers of the disease when communicated from the cow, to destroy the liability to small-pox. But the question that arose was the communicability of the protective malady from one *person* to another. An important question. An opportunity occurred on the 14th of May, 1796, of instituting this experiment. Matter was taken from the hand of Sarah Nelmes who had been infected by her master's cows, and inserted by two superficial incisions into the arms of James Phipps, a healthy boy of about eight years old. He went through the disease apparently in a regular and satisfactory manner. But this was not all. It was still to be ascertained whether this complaint,

communicated by art from one individual to another, was really protective against small-pox. This was to be determined by positive experiments. How much hung upon the issue, how anxious the mind of the experimenter must have been may be guessed, but cannot be told.

On the first of July, Jenner inoculated Phipps with variolous matter. No disease followed. He communicated the event to his friend Gardner in the following letter.

"Dear Gardner,—As I promised to let you know how I proceeded in my inquiry into the nature of that singular disease the cow-pox, and being fully satisfied how much you feel interested in its success, you will be gratified in hearing that I have at length accomplished what I have been so long waiting for, the passing of the vaccine virus from one human being to another by the ordinary mode of inoculation.

A boy by the name of Phipps was inoculated in the arm from a pustule on the hand of a young woman who was infected by her master's cows. Having never seen the disease but in its casual way before; that is, when communicated from the cow to the hand of the milker, I was astonished at the close resemblance of the pustules, in some of their stages, to the variolous pustules. But now listen to the most delightful part of my story. The boy has since been inoculated for the small pox which, as I ventured to predict, produced no effect. I shall now pursue my experiments with redoubled ardour.

Believe me yours, very sincerely,

EDWARD JENNER."

Berkeley, July 19, 1796.

It requires little knowledge of human nature to imagine what Jenner's feelings must have been in this stage of his investigation. Believing himself the possessor of a secret of the first confidence to the human race—trembling at every fresh experiment, lest it should damp his hopes—anxious to communicate what he knew to the world, yet fearing to compromise himself, his cause, and the truth, by precipitancy, his bosom must often have been the seat of the most conflicting feelings. He says himself:—"While the vaccine discovery was progressive the joy I felt at the prospect before me of being the instrument destined to take away from the world one of its greatest calamities, blended with the fond hope of enjoying independence and domestic peace and happiness, was often so excessive that, in pursuing my favourite subject among the meadows, I have sometimes found myself in a kind of reverie. It is pleasant to me to recollect that these reflections always ended in devout acknowledgments to that Being from whom this and all other mercies flow."

The evidence was sufficiently collected and consolidated to be laid before the public. It was given in the form of a quarto, about the end of June, 1798. It was dedicated to Dr. Parry, of Bath, and very little exceeded seventy pages. This form of publication was judged more advisable than a Paper in the transactions of the Royal Society.

Just prior to this, Jenner repaired to London, for the purpose of exhibiting the cow-pox. He remained in town for nearly three months, without being able to procure one person on whom he could exhibit the vaccine disease. He often stated that his patience had been exhausted on that occasion, and that he had actually quitted the capital without having accomplished the object of his journey.

But some of the virus was consigned to Mr. Cline, who inserted it by two punctures into the hip of a patient. This fact, and a letter of Mr. Cline's

upon the subject, deserve to be put upon record, for they shew the sagacity and philosophical spirit of that surgeon in a favorable light.

"COPY OF MR. CLINE'S LETTER..

Lincoln's-Inn Fields, 2d Aug. 1798.

'The cow-pox experiment has succeeded admirably. The child sickened on the seventh day; and the fever, which was moderate, subsided on the eleventh day. The inflammation extended to about four inches diameter, and then gradually subsided without having been attended with pain, or other inconvenience. The ulcer was not large enough to contain a pea, therefore, I have not converted into an issue as I intended.* I have since inoculated him with small-pox matter in three places, which were slightly inflamed on the third day, and then subsided.

Dr. Lister, who was formerly physician to the Small-pox Hospital, attended the child with me, and he is convinced that it is not possible to give him the small-pox.

I think the substituting of cow-pox poison for the small-pox promises to be one of the greatest improvements that has ever been made in medicine: for it is not only so safe in itself, but also does not endanger others by contagion, in which way the small-pox has done infinite mischief. The more I think on the subject the more I am impressed with its importance.

With great esteem, I am, dear Sir,

Your faithful servant,

HENRY CLINE."

Cline advised Jenner to repair to London immediately, and to take a house in Grosvenor-Square, assuring him of an income of £10,000 a year by practice. The late Sir W. Farquhar coincided with Cline in the advice and the anticipation. But Jenner was proof against the temptation. He was not anxious for gold, he shunned the angry competition of Metropolitan practice, and his ambition was of a nobler order, than that which wealth would satisfy. "My fortune," said he, "with what flows in from my profession, is sufficient to gratify my wishes; indeed so limited is my ambition and that of my nearest connections, that were I precluded from future practice I should be enabled to obtain all I want. And as for fame what is it? a gilded butt, for ever pierced with the arrows of malignancy."

Jenner received many letters from men of eminence, among others from Dr. Percival, Dr. Haygarth, and Dr. Hicks, congratulating him on his discovery, and urging him to render it as perfect as investigation could make it. All men were not opposed to vaccination because it was novel, but those of superior minds were generally disposed to submit it to the test of inquiry, and to extend to it the advantage of patronage.

We pass by four chapters occupied with discussions on the history of variola, variolæ vaccinae, and varioloid diseases, and we take up the thread of Jenner's life after the publication of his "Inquiry."

The celebrated Dr. Ingenhousz going on a visit to the Marquess of Lansdown at his seat in Wiltshire, made it his business to inquire among the dairies, where cow-pox sometimes prevailed, respecting its reported virtues

* "This boy was brought to town on account of some disease in the joint of the hip. Mr. C. therefore inoculated near the part, with the view of exciting inflammation, and subsequently of forming an issue. E. J."

as a preventive of small pox; and he got, as might have been expected, such answers as Dr. Jenner had obtained at the commencement of his investigation. Some individuals, who had what was called the cow-pox, were subsequently affected with small-pox. It cannot be a matter of surprise that Ingenhousz should be influenced by the facts he heard, rather than by what must necessarily have appeared the hypothetical explanations of Jenner. It is not fair to judge by the event, and there were many circumstances connected with the origin of vaccination calculated to inspire doubt. Jenner believed that vaccination was a certain preventative against small-pox. Facts appeared on inquiry to contradict that confident assertion. Do they confirm it even *now*? We are afraid not. Jenner was much annoyed and more excited. The commencement and conclusion of a letter, shew his condition of mind.

"Dear Gardner,—I fully depend upon meeting you at Eastington to-morrow to sit in council on several subjects of high import. My friends must not desert me now. Brickbats and hostile weapons of every sort are flying thick around me; but with a very little aid, a few friendly opiates seasonably administered, they will do me no injury."

"My experiments move on—but I have all to do single-handed. Not the least assistance from a quarter where I had the most right to expect it!!

Bodily labour I disregard, but pressures of the mind grow too heavy for me. Added to all my other cares, I am touched hard with the reigning epidemic—impediment. Any supplies from the paper maker?" 297.

A new source of annoyance however developed itself, as unexpected, as dangerous. It was not the opposition of enemies, but the interested assistance of friends. Cow-pox broke out among some cows in Gray's Inn Lane. Many London Physicians ran to observe, to experiment, to fail. To fail, because they operated with vaccine matter at the Small-Pox Hospital, in such a way that the two poisons got mixed up together, and a sort of varioloid vaccine lymph was used in London and sent abroad. The result, of course, was confusion. But this was not all. Dr. Pearson became extremely busy in vaccinating, and preaching vaccination, and evinced every inclination to step quietly into Jenner's shoes. The following is an extract from a letter of George Jenner to the Doctor.

"I shall only state a few facts I have got possession of since I wrote to you last. Dr. Pearson is going to send circular letters to the medical gentlemen to let them know that he will supply them with cow-pox matter upon their application to him, by which means he will be the chief person known in that business, and consequently deprive you of that merit, or at least a great share of it, which is so justly your due. Doctor P. gave a public lecture on the cow-pox on Saturday last. Farmer Tanner was there. Doctor Pearson adopted your opinions except with regard to the probability of the diseases originating in horses' heels. He spoke of some unsatisfactory experiments having been made by inoculating from the greasy heels; but when we consider how difficult it was to communicate the disease from one cow to another by inoculation, we are not to wonder at the still greater difficulty in communicating it from the horse to the cow. The farmer says Dr. Pearson was wrong in some part of his lecture, which he took the liberty to tell him," 319.

Jenner may well be supposed to have been annoyed at this. He was so. Other attacks too, and other circumstances, conspired to augment his anxiety

and chagrin. What he felt he expressed in a letter to Mr. Edward Gardner, a portion of which we shall quote.

"Dear Gardner,—There never was a period in my existence when my situation called so loudly for the assistance of my literary friends as the present. Though my bark will, with flying colours, reach the shore at last, yet it is now in a storm.

I am beset on all sides with snarling fellows, and so ignorant withal that they know no more of the disease they write about than the animals which generate it. The last philippic that has appeared comes from Bristol, and is communicated by Dr. Sims of London. Sims gives comments on it in harsh and unjustifiable language. It is impossible for me, single-handed to combat all my adversaries.

Standing, as I do, before so awful a tribunal, my friends will volunteer their counsel and IMMEDIATELY appear in court.

My intended pamphlet has only been looked over in a cursory way. Every sentence must be again revised and weighed in the nicest balance that human intellect can invent." 322.

On the 21st of March, 1799, Jenner arrived in London, and took up his residence in Norfolk-street. He had an interview with Dr. Woodville, and was tolerably well occupied in correcting the blunders that had arisen from the mixing up of the small-pox and vaccine poisons in town. This latter circumstance gave birth to the idea that vaccination *might* give rise, and often did, to a smart eruptive disease. Nay Dr. Woodville concluded that it had proved fatal once in 500 cases, a mortality greater than that from inoculated small-pox, which had appeared to be one in 600. We need scarcely say that logical as this reasoning seemed, it was fallacious, because the data themselves had been erroneous.

But notwithstanding, says Dr. Baron, the prejudices which were excited against cow-pox by the report of its being an eruptive disease, it continued to gain ground. Many distinguished individuals, in different parts of the kingdom, eagerly availed themselves of the promised benefit of the practice, and exerted themselves to diffuse it as widely as possible. It is a gratifying thing to be able to remark that the ladies of England were conspicuous in this work. Lady Peyton, sister of Lord Rous, must be ranked among the first who, by personal efforts, stimulated the professional gentlemen in her neighbourhood to adopt vaccination; and she herself subsequently became one of the most energetic and successful of vaccinators.

Jenner returned to Berkeley, and what between vaccinating, forwarding vaccination, and correcting the bad consequences of the mixture of the London vaccine lymph with small-pox matter, he had business enough upon his hands. We cannot enter into particulars, but it is remarkable how great a risk vaccination ran, how narrowly it escaped being damaged by the injudicious interference of its friends. However, the Duke of Clarence's children were vaccinated, the King sent "a very civil message" to the vaccinators, and the Princess Louisa, of Prussia, applied to Jenner for lymph.

It must not be supposed that no active opposition was encountered by Jenner. Dr. Moseley, physician to Chelsea Hospital, thought fit, in a treatise on sugar, to bring forward an irrelevant attack on cow-pox, and then gave his professional brethren a specimen of that elegant and classical phraseology which so peculiarly distinguished his subsequent lucubrations. His station, much more than the force of his argument, gave weight to his observations.

He wrote in great ignorance of the subject; and with all the bitterness and prejudice that generally attend on ignorance.

Mr. Ring very successfully exposed and refuted his remarks. The doctor had seen in distant prospect an awful aggravation of human ills, from an admixture of bestial humours, which the cow mania, as he elegantly termed it, threatened to inflict upon our race. He even predicted an alteration in "the human form divine," and that another brood of minotaurs would overspread the land—

"Semibovemque virum, semivirumque bovem."

Cases were, we believe, published, in which vaccinated persons bellowed like cows, became covered with hair, and even exhibited horns and a tail. It would be highly amusing, but very unprofitable, to collect these *facts*, and to repeat the arguments of Moseley and his coadjutors. But the prejudiced knaves who coined, and fools who credited these bug-bears, are too ridiculous for further notice.

We have seen Dr. Pearson kindly patronising Dr. Jenner. A continuation of this patronage was now extended to him, and very flattering it was. The Doctor, in his anxiety to immortalize his friend, set on foot a vaccine board, of which the chief place was allotted to himself,—the inferior departments being also filled up in conformity with his wishes. The board, thus constructed, received a degree of countenance worthy of a metropolitan charity: His Royal Highness the Duke of York having permitted himself to be named as patron. Lord Egremont also consented to hold an office in it. Matters being thus arranged, it became the business of Dr. Pearson to announce the matter to Jenner. Our readers may conceive the delight with which the former must have seized the opportunity of honouring the discoverer of vaccination—the elevated post he would assign to him. Whatever their expectations may be, the fact we venture to say will outrun them. Here is the letter announcing the Institution.

"DR. PEARSON TO DR. JENNER.

London, Dec. 10th, 1799.

My dear Sir,—I wish ever to be governed in life by the rule of doing justice; and, if I can, acting liberally to my fellow labourers. I trust I have acted consistently to you; and, if I have differed in opinion on some points, it was because new lights broke in upon me; but I trust in such instances I, too, acted consistently and was more anxious to bestow commendation than to be studious to point out faults. Agreeably to my principle I now address you to say that we have made some progress in the institution of a charity for inoculating the vaccine pock. I do not know that I can confer any honour on you by proposing you (if I am able) to the directors of our establishment, nor do I well know what to propose to you. It occurs to me that it might not be disagreeable to you to be an extra corresponding physician, and I can see no objection to this proposal at our meeting. The medical establishment consists of two physicians of the college, two consulting physicians, two surgeons, and three visiting apothecaries. We have got very high patronage, but the institution is not yet completely organized, nor will be so for some time. Rush, Keate, and his nephew, Gunning, Brand, Devaynes, belong to the medical departments. Exactly what Woodville will or can be, on account of his connexion with the Small-pox Hospital, I cannot tell: but he authorizes me to say in a letter from him, 'that he wishes to give his assistance and promote the undertaking.'

No expense is to be attached to your situation except a guinea a year as a subscriber, and I think you ought to be exempt from that, as you cannot

send any patients: but you may depute some proxy in town. I confess I was surprised that you neither called nor sent to me for the last *two* months you were in town. However, if it was because you were so much occupied, I certainly excuse you. I hope you will excuse haste in this letter, but it will serve to assure you that I remain, with great consideration.

Your's truly, G. PEARSON.

Compliments of Mrs. P. and myself to Mrs. Jenner."

The generosity of the man is equalled by the liberality of the patron. Could any thing be more just, could any thing be more honourable, than making Jenner an extra-corresponding physician, and letting him off one whole guinea a year as subscriber. Think of that! made a guinea governor for nothing.

The odd thing is that Jenner did not feel the compliment. He could not perceive that he was amply recompensed for years of anxiety, and for all the toils of investigation and discovery, by the title and office of an extra corresponding physician to another man's institution. Certain it is that he was not sensible of the honour done to him, and he declined it forthwith.

Jenner thought it was time to return to London, which he did on the 28th of January, 1800. His main object was to deliberate with Lord Egremont and other friends respecting the establishment of a vaccine institution. Jenner was introduced to the Duke of Clarence. This was followed by an interview with the Duke of York. The consequence was, that Lord Egremont and the Duke withdrew from Pearson's institution. Dr. Baron remarks that Dr. Jenner's firmness and prudence in this affair gave unqualified satisfaction to his friends; and supported as he was by the handsome and efficient interposition of Lord Egremont, he was enabled to defeat the ambitious designs of those who sought for high patronage in proceedings of a very questionable nature.

"It certainly was the feeling of all those elevated personages who wished to assist in forming a vaccine institution that none could be established which did not assign to the author of the discovery that situation of dignity and influence which was due to his merit, and which would enable him to direct the practice with vigour and effect. This feeling was strongly evinced when the Royal Jennerian Society was formed; and it was also very characteristically expressed at this time by his friend the late munificent Mr. Angerstein. He said, '*that he would not mind a subscription of one hundred or two hundred pounds in an institution organized by the man who was best competent to set about it, but that he would have nothing to do with one grafted on the present blunders.*'" 372.

On the 7th of March, Jenner went to St. James's with Lord Berkeley, and presented his Treatises on Cow-pock to the King. Jenner writes in allusion to this intended presentation—"Pray acquaint Lord Berkeley I shall be ready to accept his kind offer of accompanying me to St. James's any day he may appoint in the course of the week after this. The work will then be finished, and clad in crimson. What will you give for a sight of me all in velvet, girt with a sword too? What a queer creature is a human being!" Towards the end of the month, he had a private interview with the Prince of Wales, and soon afterwards he went to the Queen's drawing-room. So Jenner went the round of the Royal Family, and must have begun to think himself—

"A marvellous proper man."

Writing about this time, he says, "I have not made half my calls yet in town, although I lag from eleven till four." He goes on to observe—"Pray write without delay to Tierney, and tell him how rapidly the cow-pox is marching over the metropolis, and, indeed, through the whole island. The death of the three children under inoculation with the small-pox will probably give that practice the Brutus-stab here, and sink for ever the tyrant small-pox. Would Tierney like to have a little virus, that the cow-pox inoculation may be set going under his own eye at Edinburgh? I should be happy to furnish him. Let him know that my new edition mentioning his name, with the appendix, is published. A very little attention would place the practice in its proper light in Edinburgh, a thing devoutly to be wished." Tierney is the present Sir Matthew Tierney.

In a letter from Mr. Gooch to Dr. Jenner, an instance is mentioned of the prejudice that prevailed against inoculation in some parts. "The first people," he says, "we inoculated in Hadleigh were absolutely pelted, and drove into their houses, if they appeared out; we have now persuaded our apothecary to inoculate the whole town (7 or 800 persons) and our hundred-house is now under inoculation (about 350 persons)."

But, after all, vaccination met with less opposition than could have been anticipated, considering the strange nature of the fact, its want of analogy with what we know of other morbid poisons, and the numerous mistakes and mishaps that waited on it at the outset. If, even now, we are inclined to doubt whether Jenner was not too sanguine and too peremptory, how much more sceptical must have been the reasoners of that day. We confess that we are surprised both at the boldness and the liberality of such a testimonial as the one we shall adduce signed by such men as Dr. Wall, Chemical Professor of the University of Oxford; Dr. Williams, Regius Professor of Botany; Sir Christopher Pegge, Reader in Anatomy; and Mr. Grosvenor, Surgeon to the Radcliffe Infirmary. The document runs thus:—"We, whose names are undersigned, are fully satisfied, upon the conviction of our own observation, that the cow-pox is not only an infinitely milder disease than the small-pox but has the advantage of not being contagious, and is an effectual remedy against the small-pox."

We shall not stop to trace the progress of vaccination in this country or abroad. In our opinion, it was astonishingly rapid. We prefer accompanying Jenner, who returned to Cheltenham in July, 1800, but in November brought up his family to London. Dr. Baron informs us that his own personal endeavours were, as heretofore, laborious. He offered gratuitous inoculation to all the poor who thought fit to apply at stated periods. His benevolent invitations were, in the main, very generally accepted, parents bringing their children in great numbers both from the town and the adjoining parishes.

Dr. Baron adds an amusing though a not unparalleled incident.

"Notwithstanding his repeated notices of gratuitous aid one parish had hitherto obstinately held back. This year, however, he found the people bringing their children in great numbers. Of course he wished to know by what means they had become converts to the new inoculation. He found that arguments of a very authoritative nature had brought about the change. The small-pox, in the course of the preceding year, had been introduced into the parish, and proved extremely fatal; but it was not this circumstance, nor yet the secu-

city of those who had been vaccinated in the adjoining parishes, that brought cow-pox inoculation into favour. The cost of coffins for those who were cut off by small-pox proved burdensome to the parish; the churchwardens, therefore, moved by this argument effectually exerted their authority, and compelled the people to avail themselves of Dr. Jenner's kind offer." 434.

He had again in London a typhoid attack, which he always dreaded. But he was soon able to resume his active duties. His vaccinations among the higher ranks were very numerous; and many of the nobility were desirous of having from his own mouth information on the great question which then engrossed so much of the public attention. A party of this kind assembled at the house of Earl Spencer on the twentieth of December. Besides his Lordship and the Countess there were present Lord Lucan, Lord Camden, Lord Macartney, Mr. Grenville, &c. &c. Jenner, whether in conversation or in writing, never failed to treat this or any other subject, with great eloquence and perspicuity.

Jenner conceived the idea that by vaccinating the dog, that animal might be rendered proof against the "distemper." Accordingly we find him vaccinating twenty of the king's stag-hounds. It would appear that this was an idle notion.

Dr. Jenner has often been blamed, says Dr. Baron, for encouraging unprofessional persons to practise vaccination. Every individual in this situation, with whom he had to do, actually studied the subject, and implicitly followed his directions. Not so many of his professional brethren. They would not condescend to be instructed, and they openly disregarded his rules. Of these one of the most important was violated by the first public body that was formed in London for the purpose of vaccination. They actually printed and distributed a paper stating that the virus may safely be taken from the pustule, so late as the thirteenth day!!!

It certainly would have been desirable to have confined the practice from the beginning to the hands of medical men. It is, nevertheless, true, that, from the causes just mentioned, *they* fell into great error, and did thereby much more endanger the character of vaccination than those who, from their general ignorance of medical subjects, might have been considered as more liable to go astray.

On the 22nd of April, Jenner was admitted a Fellow of the Lyceum Medicum Londinense, a society founded by Hunter and Dr. Fordyce. But now and then some sturdy opponent of vaccination started up. Ehrmann, of Frankfort in an especial manner rendered himself conspicuous by the violence and extravagance of his opposition to the new practice. A learned divine of the church of England (Marsey) who preached a sermon against small-pox inoculation, in London, 1722, announced it as "no new art, inasmuch as Job, he asserted, had been inoculated by the devil." Ehrmann took rather a bolder flight, and attempted to prove from quotations of the prophetic parts of Scripture, and the writings of the fathers of the church, that the Vaccine was nothing less than Antichrist. The harsh and unsparing tone of his writings obtained for him the appellation of the *Marat* of the Vaccine.

As a set off against Ehrmann, we may take the Empress of All the Russias. On the 10th of August, 1802, she sent Jenner a letter, signed with her own

hand, together with a valuable diamond ring. Her letter is really a fair sample of royal good sense and good feeling.

MONSIEUR JENNER !

D'usage de la Vaccine en Angleterre ayant eu les succès les plus avantageux et les mieux attestés, je me suis empressée d'imiter cet exemple, en l'introduisant dans les établissemens pieux, qui sont sous ma direction. Mes soins remplissant parfaitement mon attente, je me plais à en rapporter le succès, et à en témoigner ma reconnaissance à celui, qui a rendue à l'humanité ce service signalé. Ce motif m'engage, Monsieur, à vous offrir la bague ci-jointe comme une témoignage des sentimens d'estime et de bienveillance, avec les quels je suis votre affectionnée,

Powlosk ce 10 Août, 1802.

MARIE.

In America, the most enlightened of her citizens supported, some of his own profession opposed Jenner. It cannot excite astonishment that John Adams should have countenanced him. The friend of his species, his heart was disposed and his head was qualified to hail and appreciate whatever was beneficial to it. Nor did Jefferson disdain to turn vaccinator. He and his sons-in-law vaccinated in their own families and in those of their neighbours, nearly two hundred persons.

We have arrived at an important epoch in Jenner's life. By dint of untiring efforts, vaccination had become widely known, and was almost as widely practised—it had taken root in all quarters of the globe, and time only was necessary for its culture and maturity—the name of Jenner was pronounced and revered in every civilized and almost every barbarous tongue—his country was honored in himself—and we naturally inquire what was the condition of the man who had done so much for humanity.

He had materially impaired his professional income as well as his private fortune. His frequent journeys to London, indispensable for the success of the cause of vaccination, had been a source of great expense, the extensive correspondence in which he was engaged was also burdensome, his time was occupied, his attention absorbed in the development of his discovery, and, finally, its unreserved diffusion, prevented his receiving any material personal advantage from it. These were not the cheap sacrifices of a wealthy man, the philanthropy which while it gratified the heart did not pinch the body. Jenner had a family and many relatives dependent on him, and while he was studying to preserve the lives of others it was requisite that he should live himself.

Under these circumstances, says his biographer, it was thought that the magnitude of his discovery and the very disinterested manner in which he was sacrificing his time and his property in diffusing its blessings were fit subjects for the consideration of the British Parliament. After due deliberation, it was determined that his claims should be brought before the House of Commons by petition.

Previously, however, and in a degree preparatory to a direct application to the great national council, some of the chief personages in Gloucestershire began to take measures to give a testimony of the value in which he

was held by those who knew him best and amongst whom his life had been spent. An advertisement appeared in the Gloucester newspapers expressive of these sentiments.

The late Earl of Berkeley took the lead in this expression of public feeling. If some were backward in seconding the Earl, Dr. Jenner's friends, exerted themselves with an energy which more than counterbalanced any discouragements they met with. The countess of Berkeley also applied herself with her usual earnestness to effect the object. Her ladyship, assisted by Mr. Henry Hicks, the Rev. Mr. Pruen, and other personal friends of Dr. Jenner, had the satisfaction, in a short time, of seeing such a list of subscribers as enabled them to give an order for a small service of plate, which was executed by Messrs. Rundells and Bridge, with appropriate devices and the following inscription:—

Presented
by the
Nobility and Gentry
of the
County of Gloucester
to their Countryman
EDWARD JENNER, M.D., F.R.S.,
as a Testimony of the high sense they entertain
of
those eminent abilities which discovered,
and
that disinterested philanthropy which promulgated,
the Vaccine Inoculation.

Jenner's presence was again required in London; his claims for a national expression of gratitude were on the point of being submitted to Parliament. As the application ultimately referred to a money-grant it was necessary that the consent of his Majesty's ministers should be first obtained. Dr. Jenner had an interview with the premier on this subject, on the 12th of January, 1802. This conference was highly satisfactory. Unqualified approbation was expressed of the measure by the minister and he fixed upon an early day for the presentation of the petition. Mr. Addington spoke likewise strongly in praise of the discovery, and of the benefit that all the world was likely to derive from it. Much negotiation ensued with respect to the person who should present and second the petition to the House of Commons. The following letter upon the subject may not, perhaps, be uninteresting.

FROM W. WILBERFORCE, ESQ. TO DR. JENNER.

Palace Yard, Feb. 24th, 1802.

MY DEAR SIR,

I have often thought of addressing you on the subject we conversed about formerly, that I mean of your valuable discovery becoming the topic of parliamentary discussion, with a view to your receiving some compensation for your eminent services to the community. I hoped long ere now to see the matter brought forward. I always intended whenever it should be so to give you my best assistance on a principle of duty. I really thought, as I told you, that there were reasons why I was by no means an eligible introducer

of the subject, and I could not just now undertake it, on account of my being engaged to render a similar service (though contrary to my own judgment) to another gentleman. But are you aware that Friday next is the last day for presenting private petitions, and that a petition is a proper mode of bringing your discovery before Parliament?

If I can be of any use in advising you I shall be unaffectedly glad, and in rendering you any assistance I am able.

At all events, I am persuaded you will do justice to the motive which prompts me to address you thus frankly, and believe me with esteem and regard,

Dear Sir,

Your faithful servant,

W. WILBERFORCE.

It must be evident, we think, that this letter of Wilberforce was a cold one. How tame it is in comparison with what he wrote, and thought, and did in reference to Negro Slavery. But it often happens that philanthropic sympathies are most warmly interested in distant objects. Men subscribe for the relief of the Kamschatkans or the Hindoos, who will not patronize the hospitals or dispensaries in their own parish.

On the 17th of March, 1802, the following petition was presented.

To the Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled.

The humble Petition of EDWARD JENNER, Doctor of Physic,

SHEWETH,

That your petitioner having discovered that a disease which occasionally exists in a particular form among cattle, known by the name of the cow-pox admits of being inoculated on the human frame with the most perfect ease and safety, and is attended with the singularly beneficial effect of rendering through life the persons so inoculated perfectly secure from the infection of the small-pox.

That your petitioner after a most attentive and laborious investigation of the subject, setting aside considerations of private and personal advantage, and anxious to promote the safety and welfare of his countrymen and of mankind in general, did not wish to conceal the discovery he so made on the mode of conducting this new species of inoculation, but immediately disclosed the whole to the public; and by communication with medical men in all parts of this kingdom, and in foreign countries, sedulously endeavoured to spread the knowledge of his discovery and the benefit of his labours as widely as possible.

That in this latter respect the views and wishes of your petitioner have been completely fulfilled, for to his high gratification he has to say that this inoculation is in practice throughout a great proportion of the civilized world, and has in particular been productive of great advantage to these kingdoms, in consequence of its being introduced, under authority, into the army and navy.

That the said inoculation hath already checked the progress of the small-pox, and from its nature must finally annihilate that dreadful disorder.

That the series of experiments by which this discovery was developed and completed have not only occupied a considerable portion of your petitioner's life, and have not merely been a cause of great expense and anxiety

to him, but have so interrupted him in the ordinary exercise of his profession as materially to abridge its pecuniary advantages, without their being counter-balanced by those derived from the new practice.

Your petitioner, therefore, with the full persuasion that he shall meet with that attention and indulgence of which this Honourable House may deem him worthy, humbly prays this Honorable House to take the premises into consideration, and to grant him such remuneration as to their wisdom shall seem meet.

The prime minister, Mr. Addington, (now Viscount Sidmouth) informed the House that he had taken the King's pleasure on the contents of the petition, and that His Majesty recommended it strongly to the consideration of Parliament. It was referred to a committee, of which Admiral Berkeley was appointed chairman, the inquiries of which were chiefly directed to these points: first, the utility of the discovery itself; secondly the right of the petitioner to claim the discovery; thirdly, the advantage in point of medical practice and pecuniary emolument which he has derived from it. The Committee went through a large body of evidence of various kinds and drawn from various sources. It was still confirmatory of Jenner's views, and highly flattering to him. But Dr. Pearson would appear to have attempted a second time to have robbed Jenner of the credit due to him. Dr. Baron says:—

“Of Dr. Pearson's statements before the Committee of the House it is by no means easy to give a lucid view. He sets out with asserting that he was *conversant* with the vaccine inoculation ever since January 1799, and as though he would bespeak credit for himself by exciting a partial sympathy for Dr. Jenner's claims, he thus proceeds: ‘I think it but justice to Dr. Jenner to state that I am acquainted with the practice of inoculation of persons for the small-pox, who on good evidence have been said to have gone through the cow-pox since June or July 1798—the result of which was that they could not receive the small-pox infection.’ He then goes on to say, in answer to questions put by the Committee that his own knowledge of the vaccine inoculation was obtained by him ‘*in the first instance from Dr. Jenner; afterwards I got information from other sources.*’ These sources have been already mentioned—and, with respect to the information derived from them, Dr. Pearson declares that he *imagines* that it and Dr. Jenner's first publication ‘were independent of each other.’ He next states that Mr. John Hunter did not mention in his lectures the *inoculation* of the cow-pox, but simply that persons who had had that disease could not take the small-pox, and that it had not been known to prove fatal in any one instance; that the Rev. Herman Drew did not lay claim to the discovery of inoculating with vaccine matter from one human being to another; that *that* discovery was exclusively Dr. Jenner's; that the events mentioned in the documents handed in took place earlier than 1798, because immediately on the publication of Dr. Jenner's Inquiry in that year, he, Dr. Pearson, wrote to the gentlemen who furnished the information, and they ‘*immediately communicated their cases of vaccine inoculation* without appearing to be acquainted with Dr. Jenner's work.” 499.

On the whole the evidence of Dr. Pearson was intended to prove that vaccine inoculation had been practised by others before Dr. Jenner. His second examination before the Committee had a different object. It went to show that, though Dr. Jenner promulgated the practice of vaccination, he really knew very little about the matter; that his opinions as to its origin were erroneous; and that it required the experiments and labours of other observers to correct his mistakes: and that he and Dr. Woodville had the

chief merit in the establishment of the Vaccine Inoculation. Thus, as Dr. Baron remarks, all that was left to Jenner was the merit of being the publisher of a provincial rumour, the nature of which he did not fully understand.

There cannot be a doubt that the behaviour of Dr. Pearson was of anything but a creditable character. We shall not go into the question, nor weigh in a nicely critical balance the exact quantum of merit on the part of Jenner. This is certain. He seized on a popular tradition—patiently investigated its truth—persisted through good and through bad report in submitting it to the test of experiment—dared to inoculate the human subject, and converted the imperfect, irregular, and precarious supply of vaccine lymph into an abundant and certain stock of it—and, neglecting all other things, devoted his time, attention, and abilities to the prosecution and perfection of this preventive of one of the scourges of our race. That such a person should from many receive discouragement and meet with ridicule while prosecuting his inquiry, and be treated with disparagement and robbed of his merits afterwards, is too true. Yet it is no less true than common. Such is, and ever has been, the fate of discoverers. Such was the lot of Newton, and this great man complained bitterly of these results of scientific discovery.

The committee reported favourably for Jenner, and the chairman moved that a sum not less than 10,000*l.* be granted to him. Various opinions were expressed on that amount. Many thought 20,000*l.* the least that could be given—a few even seemed to grudge the lesser sum. But after various opinions had been offered, the Question was put that the words ten thousand pounds do stand part of the resolution; when the Committee divided—

Ayes, 59. Noes, 56.—Majority, 3.

There cannot be a second opinion on the beggarly economy of this parliamentary grant. The very virtuous Chancellor of the Exchequer, who, good man, was alarmed for the pockets of the nation, pensioned off more handsomely many a titled whore, and refused to science that public treasure which was profusely squandered for the purposes of party. But it has always been thus in Britain. The factions which rule her, nearly balanced in power, and narrowly watched by each other, can ill afford to divert from their particular uses the loose cash of the people. A vote is of more consequence to them than any philosophical discovery, and medicine, which stands aloof from politics, and is not represented in legislative assemblies, receives little countenance from politicians. Religion, as a state instrument, obtains state support, but we suspect that were not her aid requisite in consolidating social order, even she would be left to shift for herself by the sordid spirit of rulers.

An attempt was made, or, rather, the idea was entertained, to raise a public subscription for Jenner. But nothing appears to have come of it. Jenner was addressed by the Medical Society of London, and by other medical societies, and elected an honorary associate by the Physical Society of Guy's Hospital. But these, though gratifying, were comparatively trivial circumstances. In the midst of all he still persevered his original simplicity and playfulness of character, and the following dialogue written about the time that he was most exposed to the vexatious opposition directed against him before the Committee of the House of Commons, is preserved by Dr. Baron, and may be quoted by us.

“ DIALOGUE BETWEEN E. J. AND HIS SERVANT RICHARD.

- R. A servant, Sir, has call'd just now,
And left a very handsome cow.
'Twas brought, he told me—let me see—
From some such place as *Italy*.
Well have I look'd her o'er and o'er,
And never saw her like before.
In no one point, Sir, does she fail,
Head, horn, neck, carcase, limbs or tail;
And here she is to take her station
In compliment to Vaccination.
- J. Well, Richard, this is very good,
But how shall we contrive her food?
Instead of town were we at home,
Among our meadows she might roam;
But here I've not one inch of pasture—
- R. Oh, Sir, don't vex; that's no disaster,
The cow is only Paris Plaster! }

Bond Street, 1802.”

After the completion of the parliamentary inquiry, Jenner returned into the country, and hoped to enjoy repose with his family in his “pleasant home.” But the “Royal Jennerian Society” was proposed, and organised in London—royal patrons were sought and found—Jenner was elected President—and on the 3rd of February, 1803, he took the President's seat at the London Coffee House. At subsequent meetings a central house for the institution, in Salisbury Square, was secured; a resident inoculator and medical secretary was appointed, and Dr. John Walker was elected to fill this situation.

On the 17th of May, 1803, his birth day was celebrated by a public dinner. Jenner went with a deputation to thank his Majesty for his patronage—thirteen vaccine stations were opened in different parts of the metropolis—and all seemed to be going smilingly for the Royal Jennerian Institution. But the seeds of its destruction were sown in the election of Dr. John Walker. This individual ran counter to his instructions—opposed Jenner's views—contravened his practice—and endangered the cause of vaccination, while he made Jenner ridiculous. His removal was necessary, and, though difficult, was accomplished. But the schism had destroyed the concern, and on the appearance of the National Vaccine Institution, it disappeared.

In 1802, vaccination was communicated to the American Indians—in 1803 Jenner was elected an honorary life governor of the Humane Society, and, in October of the same year, Jenner received, among other poetical addressess, a *Carmen Alcaïcum* from Christopher Anstey, the witty author of the “Bath Guide.” Dr. Baron quotes some stanzas from the *Carmen* which we think worth quoting again.

O! qui secundo natus Apolline
Incumbis arti pæoniæ, studens
Arcana Naturæ, gravemque
More nova prohibere morbum,

Jennere, laudes an sileam tuas?
Dum mente sanus, nec cythara carens,
Turpive succumbens senectæ
Rura vagor per amœna Cheltæ?

Furore quod non ante domabili
 Tot dira Pestis quæ peperit mala,
 In gentis humanæ levamen,
 Te medico superata cessit;

Quippe arte mira quæ tibi contigit,
 Puris benigni guttula, ab ubere
 Inserta vaccino lacertis,
 Corporeas penetrat meatus,

Brevique facta in vulnere pustula,
 Propulsat Hostem, nec sinit amplius
 Inferre morborum cohortes
 Innumeras, comitemque mortem.

Te mater ambit filiolo cavens
 Ut tuto ab atra corpore, sit lue,
 Innupta te virgo decentes
 Sint memori sine rabe malæ ?

Utcunque nostris laudibus invidens
 Gens quæque grates dat tibi debitas ;
 Te Gallus extollit, tuamque
 Obsequiosus adorat artem.

Nec longiori carmine te morer,
 Montemque curis utilioribus
 Jennere seducam,—valeto.—
 Teque, tousque, precor, labores

Deus benigno numine prosperet ;
 Et dum perennis gloria Laureæ
 Insignit Heroas Brittanos,
 Civica te decorat Corona.

Jenner received diplomas and honours from abroad, *pari passu* with addresses and poems at home. Nay he was requested to intercede with the French authorities, to procure the liberation of some of the *Détenus*. He did intercede, and apparently, with partial success. Besides high honours paid to him in Spain, that country evinced an activity quite astounding. Who that knows any thing of Spanish phlegm, would imagine for an instant, that the Spanish monarch actually resolved to fit out an expedition for the express purpose of carrying to all the possessions of the crown of Spain beyond the seas, and to those of several other nations, the inestimable gift of vaccine inoculation. But the most surprising thing of all is, that the Spaniards not only thought of doing this but did it. We would venture to say that there is scarcely such another instance of decision to be found in the history of modern Spain. Thus in little more than six years after the promulgation of vaccination, it was known in every clime. Proceeding eastward and westward from our own island, it traversed the circumference of the globe. This fact is we think a sufficient refutation to the idea that vaccination met with great obstacles. The progress of truth is not so seriously nor so long impeded by bigotry as is imagined. It suits the views of unfortunate specu-

lators and of wild theorists to say so. Finding opposition successful against themselves, they triumphantly appeal to equally potent opposition advanced against discoveries of paramount value. But they are in error when they appeal to the history of science. Unless religion has been mixed up with it, opposition to scientific truth has neither been very general nor successful. Certainly it was neither in the case of vaccination.

Inadequate as was the Parliamentary grant to Jenner, its actual results could hardly have been anticipated. The public thought that, as it had purchased, it had a right to make use of his services, and the applications to him for all kinds of information were endless.

"Influenced by the remarks of some of his parliamentary advocates, he was induced to fix himself in Hertford-street, May Fair. The result of this plan by no means corresponded with their anticipations. 'Elated and allured,' he observes, 'by the speech of the Chancellor of the Exchequer, I took a house in London for ten years, at a high rent, and furnished it; but my first year's practice convinced me of my own temerity and imprudence, and the falsity of the minister's prediction. My fees fell off both in number and value; for, extraordinary to tell, some of those families in which I had been employed, now sent to their own domestic surgeons or apothecaries to inoculate their children, alleging that they could not think of troubling Dr. Jenner about a thing executed so easily as vaccine inoculation. Others, who gave me such fees as I thought myself entitled to at the first inoculation, reduced them at the second, and sank them still lower at the third.'" 4.

He remarks to one of his correspondents:—

"I have now completely made up my mind respecting London. I have done with it, and have again commenced village-doctor. I found my purse not equal to the sinking of a thousand pounds annually (which has actually been the case for several successive years,) nor the gratitude of the public deserving such a sacrifice. How hard, after what I have done, the toils I have gone through, and the anxieties I have endured in obtaining for the world a greater gift than man ever bestowed on them before (excuse this burst of egotism), to be thrown by with a bare remuneration of my expenses!" 4.

In June, 1804, two years after the parliamentary grant, the Treasury still withheld the payment of it, and when, at last, it was actually made, he was mulcted of nearly L.1,000 in the shape of official fees! A pretty mode of applying the national bounty. The Directors of the Vaccine Board felt this so sensibly, that a committee was appointed to inquire whether Dr. Jenner was not a sufferer in his income and pecuniary circumstances. That committee found that his emoluments from vaccine inoculation were not on an average more than L.350 per annum, and there was clear proof that the gross deficit of capital in the four years immediately subsequent to his removal to London amounted to nearly L.6,000.

It appears, at first sight, singular that this discovery should not have been a more fertile source of professional advantage to Jenner, yet, perhaps, the case admits of explanation. Jenner had devoted his whole attention to vaccination—had become, or at least was popularly considered, a vaccinator and nothing else—and was not likely to be employed for other things in London, where reputation for particular things brings usually a particular kind of practice. Vaccination itself was apparently so simple, so easily performed by any one, that the regular attendants on a family could, or at all events would perform it, at a cheaper rate than Jenner himself. Jenner,

indeed, quoad vaccination, was on the horns of a dilemma. To procure its universal adoption, he must show its simplicity, its trivial character—to do this was to dispense with the necessity for his personal services. Still, with all, allowance for circumstances of this nature, Jenner could not have been “cut out” for London practice, or he would have made more of it than he did.

He was much annoyed with the virulent opposition excited against him by the bigotry of the opponents of vaccination on the one hand, and by the envy of some of its supporters on the other. Reports of failures were industriously spread, and pamphlets were even published. Yet there were honours in the opposite scale. The Medical Society of London voted him a gold medal—the corporations of Dublin and Edinburgh the freedom of their cities—one of the Napoleon series of medals was struck in commemoration of vaccination—and a direct application to the Emperor met with flattering success. The application in question was this:—Dr. Wickham, one of the travelling fellows of the University of Oxford, was at Paris in the first years of his travels, when the command for the detention of the English was issued. He was permitted to retire to Geneva on his parole. Another young Englishman of the name of Williams, was also detained. The situation of both these gentleman had been particularly submitted to the consideration of Dr. Jenner: that of Dr. Wickham presented peculiar claims. Having, in vain, addressed the Central Committee of Vaccination in Paris, Jenner appealed in the following letter to the Emperor himself.

“Sir,—Having by the blessing of Providence made a discovery of which all nations acknowledge the beneficial effects, I presume upon that plea alone, with great deference, to request a favour from your Imperial Majesty, who early appreciated the importance of vaccination and encouraged its propagation, and who is universally admitted to be the patron of the arts.

My humble request is that your Imperial Majesty will graciously permit two of my friends, both men of science and literature, to return to England; one, Mr. William Thomas Williams, residing at Nancy; the other, Dr. Wickham, at present at Geneva. Should your Imperial Majesty be pleased to listen to the prayer of my petition, you will impress my mind with sentiments of gratitude never to be effaced.

I have the honour to be, with the most profound deference and respect,

Your Imperial Majesty's

Most obedient and humble servant,
E. J.”

It was on this, says, Dr. Baron, or on some similar occasion, when Napoleon was about to reject the proffered petition, that Josephine uttered the name of Jenner. The Emperor paused for an instant, and exclaimed, “Jenner! ah, we can refuse nothing to that man.” Early in July, 1806, Mr. Williams received an intimation that the Emperor had listened to Dr. Jenner's petition, and had granted liberty both to himself and Dr. Wickham. A high compliment, this fact, both to Jenner and the Emperor. The latter, indeed, was in many respects a generous despot. His was not the cold tyranny of a mere military chief. A profound historian has remarked that those best excite enthusiasm who feel it, and the devotion of the nation to Napoleon was the consequence of numerous acts like these. Even despotism is loved in the genius and generosity of the despot.

Dr. Baron adverts to the report that was circulated, and re-circulated so late as 1827, in reference to Jenner's inoculating his youngest son with

small-pox. This was held up as a commentary on his advocacy of vaccination. It is right to dispose of this injurious rumour, discreditable, if substantially true, to Jenner's head or heart. The real facts were the following. They are contained in the latter part of a long letter of Jenner's.

"My two eldest children," he says, "were inoculated for the small-pox before I began to inoculate for the cow-pox. My youngest child was born about the time my experiments commenced, and was among the earliest I ever vaccinated. By referring to the first work I published on the subject in the spring of the year 1798, page 40, you will find his name, Robert F. Jenner, and you will observe it noticed, that on his arm the vaccine lymph did not prove infectious. It advanced two or three days, and then died away. In a short time after I was necessitated to go with my family to Cheltenham for a few months, where I did not think it prudent to resume my operations, from a supposition that the people assembled at a public watering place might conceive the disease (then so little known) to be contagious, and that it might excite a clamour. However, during my stay there, this boy was accidentally exposed to the small-pox, and in such a way as to leave no doubt on my mind of his being infected. Having at this time no vaccine matter in my possession, there was no alternative but his immediate inoculation, which was done by Mr. Cother, a surgeon of this place, who is since dead; but this history is well known to many who are living.

You now see on what a baseless foundation the insinuations which have been published respecting these facts rest." 49

Vaccination made rapid progress abroad, and, perhaps, in spite of obstacles, opposition, and envy, not very unsatisfactory advance at home. But the state of his private fortune occupied the attention both of Jenner and his friends. Fortunately, admiration for the discoverer of vaccination made Lord Henry Petty one of the number, and a friend of no contemptible description. On the death of Mr. Pitt, his Lordship became Chancellor of the Exchequer, and, on the 2d of July, 1806, he brought the subject of vaccination once more before the House of Commons. The small-pox was again becoming prevalent, and the Chancellor proposed that an address to His Majesty should be voted by the House, praying "that his Royal College of Physicians be requested to inquire into the progress of vaccine inoculation, and to assign the causes of its success having been retarded throughout the United Kingdom, in order that their report may be made to this House of Parliament; and that we may take the most proper means of publishing it to the inhabitants at large."

This motion was carried unanimously, and the College of Physicians applied themselves diligently to the business referred to them. They collected evidence from all quarters, friendly and hostile, and the following is their temperate, and just Report—they strongly recommended the practice of vaccination, this conclusion being formed from an irresistible weight of evidence which had been laid before them; adding, that "when the number, the respectability, the disinterestedness, and the extensive experience of advocates are compared with the feeble and imperfect testimonies of its few opposers; and when it is considered that many who were once adverse to vaccination have been convinced by farther trials, and are now to be ranked among its warmest supporters, the truth seems to be established as firmly as the nature of such a question admits; so that the College of Physicians conceive that the public may reasonably look forward with some

degree of hope to the time when all opposition shall cease, and the general concurrence of mankind shall at length be able to put an end to the ravages at least if not to the existence, of small-pox.

On the 29th of July, 1803, the Chancellor of the Exchequer, the late Right Honourable Spencer Perceval, moved the order of the day for the house to go into a committee of supply; and stated that it was referred to that committee to consider of a farther sum to be allowed to Dr. Edward Jenner for the discovery of the vaccine inoculation, and his communication of it to the world. The house resolved itself into a committee accordingly; the late Sir Benjamin Hobhouse being in the chair.

The debate which arose on the motion of the Chancellor of the Exchequer was important; and evinced, with one or two exceptions, a proper estimate of the nature of the question. The excellent report of the College of Physicians afforded the ground on which the Chancellor of the Exchequer proposed "that a sum not exceeding £10,000 be granted to His Majesty, to be paid to Dr. Edward Jenner, as a reward for promulgating his discovery of vaccine inoculation; and that the same be issued without any fee or other reward whatever."

Mr. Shaw Lefevre presented the anti-vaccinists. But he represented it alone. Mr. Edward Morris took a different view of the subject. Influenced entirely by the weight of evidence, he made a powerful appeal to the house; and concluded by saying, "after what I have seen and heard, and know to have been proved upon this subject, I feel myself called upon to move that instead of £10,000, £20,000 be inserted in this resolution." This was warmly supported by many, countenanced by more; and the question was put that £20,000 do stand part of the resolution: when the committee divided; ayes, 60; noes, 47; majority, 13.

Thus, at last, something like a moderate recompense was awarded by the representatives of the nation to Jenner. But it was not during the reign of Mr. Pitt. That extraordinary man husbanded the resources of the country in detail that he might squander them in gross; and his treatment of Dr. William Hunter and of Jenner are proofs amongst others of the comparative indifference he evinced towards science. Had he lived in peaceful times it might, perhaps, have been otherwise.

In 1806, the Spanish expedition returned, having circumnavigated the globe, and carried to the regions of the rising and the setting sun the benefits of vaccination. And if, as has been said, Godoy, was the author of that philanthropic voyage, that alone should clear him with posterity.

From Bengal Jenner received a subscription of four thousand pounds raised in honour of his discovery and himself—from Bombay, two thousand pounds—and from Madras, one thousand three hundred and eighty-three pounds.

Among the ardent advocates of vaccination, the reverend and eccentric Rowland Hill was foremost. He vaccinated and preached, and preached and vaccinated. He once introduced Jenner to a nobleman in these terms:—"allow me to present to your Lordship my friend Dr. Jenner, who has been the means of saving more lives than any other man."—"Ah! would I, like you, could say *souls*."

The native tribes of North America received the gift of vaccination, and expressed their gratitude in accordance with their customs to the donor. They sent him a belt and string of Wampum, taught their children to speak

his name, and solemnly commended him to the great Spirit. And if that "Great Spirit," as no doubt He does, befriends the benevolent and good, the prayer of those simple Indians has been heard, and, "in the land of Spirits beyond the waters," the discoverer of vaccination tastes a reward, which neither parliaments can vote nor nations bestow.

It appears that at Ringwood, in Hampshire, vaccination *appeared* to have been in some measure unsuccessful. Under these circumstances, a deputation of the Royal Jennerian Society went down to inquire into the facts. It is stated that the deputies carried pistols to defend themselves against the populace! In reference to this, Dr. Baron observes:—

"The force of prejudice and error, and the evil consequences which have resulted from them, form the most melancholy chapters in the history of man; at one time struggling to maintain false and inaccurate dogmas, at another resisting the plainest and most convincing demonstrations, we are compelled to believe that there is a principle in our nature which has too strong an affinity for what is untrue, to permit the understanding either to discern or acknowledge an opposite principle, till both the moral and intellectual vision have been purified and strengthened. The persecutors of Galileo would, I believe, have been eclipsed in their monstrous and outrageous hostility to the splendid discoveries of that illustrious man, by some of the opponents of vaccination, had the spirit of the age or their own power enabled them to carry their wishes into execution. It is very true that the persons who manifested such dispositions were little distinguished by their rank or station or abilities. They were, nevertheless, men of education, and many of them belonged to the medical profession; and I record it as a striking proof of the weakness of the human understanding, that in the nineteenth century, and in the metropolis of the British Empire, two of the most beneficial inventions should, in protracted and repeated public discussions, have been consigned to contempt and obloquy, and their authors held up to the world as hypocrites and impostors. On Monday the 28th of March, 1808, the following question was discussed at the British Forum:—'Which has proved a more striking instance of the public credulity,—the gas lights of Mr. Winsor, or the cow-pox inoculation? The result of the discussions was as usual announced; and both vaccination and gas lights were handed over to scorn and ignominy!' 111.

We apprehend that Dr. Baron is wrong in supposing that there is an innate love of falsehood in the human mind. *Cæteris paribus* there is a love of truth. Exhibitions of the nature alluded to by Dr. Baron do not prove his position. They exhibit the force of interest and prejudice.

We turn from these contemptible exhibitions of weakness or ill nature, to some of a more gratifying character. A young man of the name of Powell, the son of W. D. Powell, Esq. Chief Justice of the Court of King's Bench in Upper Canada, was captured on board of Miranda's squadron by the forces of the King of Spain; tried, and sentenced to ten years confinement and hard labour. To obtain his release, Dr. Jenner memorialized the King of Spain, and, to the honour of both, the appeal was successful. The Emperor of Austria granted a similar boon. Napoleon was again addressed and again evinced his respect for science in the person of Jenner. The Baron Corvisart writes to the latter:—

"J'ai remis, ces jours derniers," (he observes, in a letter dated Paris, Dec. 5, 1809), "à S. M. la copie de votre dernière lettre en date du 4 8^{bre} 1809. L'Empereur m'a permis de vous repondre Monsieur, qu'il ferait mettre en liberté les deux gentilhommes (MM. Garland et Gold), auxquels vous vous interessez. Je suis bien flatté de pouvoir vous annoncer cette heureuse nouvelle."

"The Baron," says our author, "then asks Jenner to render a good office to a young friend of his, a prisoner, who had been sent back to France on his parole. His best efforts were, I believe, exerted in behalf of the young man; but unhappily, Jenner's influence with the British government was not equal to that which he enjoyed with the court of France."

The haughty spirit of aristocracy is shewn to the life in this incident; and the whole of Jenner's career, is an apt commentary on the text, that, "no man is a prophet in his own country." But Jenner was little less than a prophet abroad. For at a time when war was at its hottest, and personal animosities, as well as opinions, combined to render it rancorous, his certificate was given and received as a sort of passport, and availed more than the seals of the Foreign Office. The following is a certificate of this description:—

"I hereby certify, that Mr. A. the young gentleman who is the bearer of this, and who is about to sail from the port of Bristol on board the *Adventure*, Captain Vesey, for the island of Madeira, has no other object in view than the recovery of his health.

EDWARD JENNER,

Member of the N. I. of France, &c. &c.

Berkeley, Gloucestershire July 1, 1810."

If there is a science which deserves well of all men it is our's, since it is intended for the indiscriminate benefit of all. The feeling that it is an universal science should be fostered, and, individually and collectively, we should take all opportunities of extending to each other a reciprocity of good offices. We record these facts connected with Jenner with pleasure, because they place the conduct of some of the continental rulers in a favourable light, and because they give encouragement to that spirit of cosmopolitanism which should prevail in all that relates to us.

In the early part of 1809, Government founded the National Vaccine Institution. Jenner was appointed director. But the name was chosen on the *lucus à non lucendo* principle, for the director had no power of directing. We shall not follow Dr. Baron through his analysis of the birth and first acts of this Institution. They were so painful to Jenner that he resigned his office, and, so far as we can see from the evidence adduced by Dr. Baron, he was right in doing so. But we quit this subject to pursue the course of Jenner's life,

In the Summer of 1808, his biographer made his acquaintance at Fladong's Hotel, in Oxford Street. Jenner was dressed in a blue coat, white waistcoat, nankeen breeches, and white stockings. All the tables in his apartment were covered with letters and papers on the subject of vaccination, and the establishment of the National Vaccine Institution. But the blue coat and white waistcoat were soon to be exchanged for garments of a more sombre hue, for his eldest son, Edward, sank into a consumption, and fell a victim to it in the beginning of 1809. The young man had been always delicate, and had evinced rather a defective understanding. Yet his father was deeply affected by his loss.

His health indeed was seriously impaired by the infliction, and change of air, as well as active remedies, were necessary. But his mind was as intent as ever on its darling theme, the diffusion of the benefit of vaccination. The practice of inoculation still prevailed, and many private as well as some

legislative attempts were made to put it down. But, in this free country, such attempts are powerless in opposition to popular intelligence or prejudice. This is undoubtedly an evil. But it is an evil inseparable from freedom, and is as nothing when compared with *its* thousand benefits. If force could on every occasion be resorted to for the purpose of controlling the national will, it requires but little knowledge of governments to be certain, that such force would not be reserved for legitimate occasions. The best mode of removing error is to enlighten men, not to sabre or incarcerate them; and, in free countries, where discussion is unshackled, truth is certain to prevail at last.

To return to Jenner His applications for the release of Englishmen confined by Napoleon had been favourably received by the Emperor through the representations of Corvisart and Husson, his physicians. The latter had a brother, Captain Husson, a prisoner of war in England. Jenner petitioned our Government for his release, and was refused. Another pregnant instance of the absence of generous sentiments, in the party governments of this country. Can we wonder at the sentiments entertained by foreigners? But they ought to know, and we trust they do, that the bigotry of the vulgar, of high rank or of low, is repudiated by the men of science in this country, and that acts of this description must be saddled on their proper authors.

In 1808, the National Institute of France elected Jenner a corresponding member, and, in 1811, that distinguished body placed him in the list of foreign associates. The choice was ratified by Napoleon.

In the year 1813, the question was brought before the University of Oxford, and in full convocation the degree of M.D. by diploma was unanimously voted to him. This proceeding, not less honourable to that distinguished body than to the individual who was thus signalised, it was imagined would open the portals of the College of Physicians to him, and remove all objections to his taking a seat at the vaccine board; but it will appear in the sequel that it turned out otherwise, for it was decided in that learned body that Jenner could not be made a Fellow unless he went through the usual examination. Well might Dr. Baillie exclaim against this with more than usual warmth. It was too ridiculous.

In 1814, Napoleon abdicated. The Bourbons were restored, and, in that year the allied sovereigns visited England. Jenner went to London on that occasion, for the last time. He was presented to the Sovereigns, who all evinced an anxiety to see, none to reward him. Ribands and pensions were showered on those who had destroyed men—some honied words on him who had preserved them. Jenner's own account of his interview with the Emperor of Russia is characteristic.

"I was very graciously received, and was probably the first man who had ever dared to contradict the autocrat. He said. Dr. Jenner, your feelings must be delightful. The consciousness of having so much benefited your race must be a never-failing source of pleasure, and I am happy to think that you have received the thanks, the applause, and the gratitude of the world." I replied to his Majesty that my feelings were such as he described, and that I had received the thanks and the applause, but not the gratitude, of the world. His face flushed; he said no more, but my daring seemed to give displeasure. In a short time, however, he forgot it, and gave me a trait of character which shewed both great goodness of heart and knowledge of human nature. My inquiries respecting lymphatic diseases, and tubercles, and pulmonary consumption had reached the

ears of the Grand Duchess. She was present, and requested me to detail to her brother, the Emperor, what I had formerly said to her Imperial Highness. In the course of my remarks I became embarrassed. She observed this, and so did the Emperor. 'Dr. Jenner,' said she, 'you do not tell my brother what you have to say so accurately as you told me.' I excused myself by saying that I was not accustomed to speak in such a presence. His Majesty grasped me by the hand, and held me for some time, not quitting me till my confidence was restored by this warm-hearted and kind expression of his consideration." 207.

A few such cheap rewards of Princes was all that Jenner got.

On the 14th of September, 1815, Jenner lost his wife. He felt this loss acutely, and not only acutely but permanently. He went immediately to Berkeley, and never, but for a day or two, left it again. He had finally quitted public life, but he could not retire from it altogether. Vaccination was an affair of nations, public attention was ever open to it, public discussions were always keen upon it, and the noise of dispute could not fail to penetrate even to Berkeley.

In 1818, a virulent epidemic small-pox prevailed in many parts of Great Britain, as well as on the continent. Many of the vaccinated contracted the disease, and then, of course, arose the usual flood of rumours, and apprehensions, and exaggerated stories of disasters. It was said, too, that the vaccine lymph had deteriorated, and thus, says Dr. Baron, there was an accumulation of evils and misrepresentations, which could not fail to annoy Jenner. Statistical facts, the gross amounts of the experience of the world, have, after forty years, established the benefits of vaccination. They may not be *quite* so great as its discoverer supposed it to be, but, if life and health and beauty merit the title of human blessings, then vaccination is the greatest boon that one man has ever conferred upon his species.

It may not be uninteresting to quote the last recorded opinions of Jenner. They were written a few days before his death, on the back of a letter, the post mark on which gives the date, January 14th, 1823. They express his deliberate sentiments at a time when age had mellowed sanguine anticipations, when ambition had received all that it could expect, when death had robbed him of those nearest and dearest to him, and when retirement and the consciousness of the approach of another scene conferred that sincerity and solemnity on parting words, which has often lent them a prophetic character.

"MY OPINION OF VACCINATION IS PRECISELY AS IT WAS WHEN I FIRST PROMULGATED THE DISCOVERY. IT IS NOT IN THE LEAST STRENGTHENED BY ANY EVENT THAT HAS HAPPENED, FOR IT COULD GAIN NO STRENGTH; IT IS NOT IN THE LEAST WEAKENED, FOR IF THE FAILURES YOU SPEAK OF HAD NOT HAPPENED, THE TRUTH OF MY ASSERTIONS RESPECTING THOSE COINCIDENCES WHICH OCCASION THEM WOULD NOT HAVE BEEN MADE OUT."

Jenner's last published work made its appearance in 1822. It was entitled, "A Letter to Charles Henry Parry, M.D., &c. on the influence of Artificial Eruptions in certain Diseases Incidental to the Human Body." Not many months after the publication of this paper, Dr. Parry died. Jenner, as one of his oldest and most attached friends, went to Bath to attend his funeral. His own was not far distant. Before we bring his career to a close, we may imitate his biographer, and take a narrower look at the man in his social character and domestic habits.

Dr. Baron assures us that the calmness and composure of Jenner amidst the irritating circumstances that surrounded him, were greatly owing to the influence and example of his wife—an excellent woman of unaffected piety, good sense, and genuine amiability.

Jenner repaid the exertion of this influence by anxious tenderness and delicate attentions. For years before her death, Mrs. Jenner was chiefly confined to her own apartments. The manner in which Jenner superintended the arrangement of every thing that could be thought of for her comfort, the administration of her medicine and the preparation of her food, (which a difficulty of deglutition rendered necessary,) all indicated the warmest attachment and the kindest feelings.

Jenner was devoutly conscious of the omnipresence of the Deity, and believed that this great truth was too much overlooked in our systems of education.

His personal appearance to a stranger at first sight was not very striking; but it was impossible to observe him, even for a few moments, without discovering those peculiarities which distinguished him from all others. This individuality became more remarkable the more he was known; and all the friends who watched him longest, and have seen most of his mind and of his conduct with one voice declare, that there was a something about him which they never witnessed in any other man. The first things that a stranger would remark were the gentleness, the simplicity, the artlessness of his manner. There was a total absence of all ostentation or display; so much so, that in the ordinary intercourse of society he appeared as a person who had no claims to notice.

If the representation of the bust of Jenner, prefixed to the present volumes, be a true one of the man, his countenance certainly would not strike the observer as one indicative of genius. His inquiries were necessarily conducted in a deutory manner. But broken as they seemed to be, one object was ever present, and it was only the mode of investigation that was vague. This was partly the result of circumstances, but partly, also, of original constitution of mind, and of the want of a very exact training of it. Dr. Baron, for example, informs us, that:—

“It ought at the same time to be mentioned, that neither Dr. Jenner’s previous education nor his habits gave him a relish for any of the branches of pure science. He seemed to have a peculiar horror of arithmetical questions. He was often jocular on this defect in his nature; and I believe he frequently paid severely for it; as he would rather attend to any thing than pounds, shillings, and pence. A neighbour was once expending a great many words to draw his attention to some affairs of this kind. He expressed himself perfectly satisfied; but not so his neighbour. He continued to dwell upon the different items till Jenner’s patience became exhausted; and he exclaimed that he would rather look for an hour at a mite through a microscope than have his time taken up with such things.” 294.

It would be curious to sum up the names of great men who have been unable to comprehend the more exact parts of education. Many who have adorned, and some who have greatly benefited humanity, have been in this predicament—a proof that there are other roads to truth besides the high ways and direct ones.

The subjects of his studies generally lay scattered around him; and, as he used often to say himself, seemingly in chaotic confusion. Fossils, and other specimens of natural history, anatomical preparations, books, papers,

letters—all presented themselves in strange disorder; but every article bore the impress of the genius that presided there. The fossils were marked by small pieces of paper pasted on them, having their names and the places where they were found inscribed in his own plain and distinct hand-writing. His materials for thought and conversation were thus constantly before him; and a visitor, on entering his apartment, would find in abundance traces of all his private occupations. He seemed to have no secrets of any kind; and, notwithstanding a long experience with the world, he acted to the last as if all mankind were trustworthy, and free from selfishness as himself.

In prosecuting his investigations into unexplored regions, analogy was his favourite guide. This method is characteristic of all original minds; and although it is often carried too far, it has been, when duly and cautiously followed, the parent of some of the greatest inventions. To it we are, in great degree, indebted for the discovery of the properties of the *variola vaccinae*. But his analogies were sometimes hurried forward on the wings of imagination; and, of course, were not always accurate or conclusive. His language, too, on scientific subjects, though for the most part remarkably simple and precise, was, on some occasions, of too figurative a cast. The rich and flowery garb often seemed to overlay sterling treasure, and by those who could not penetrate below the surface he has been deemed rather visionary.

An analogical mind is one of quick perceptions. Wit is itself but a ready perception of analogy, and minds of this description are naturally best adapted for original discovery. Between minds of this sort and those of an exact character, a sort of war has been always waged. And yet the world has benefited almost equally by both. It is the combination of the two, as in the case of Newton, that constitutes the maximum of human intellect. That great man wrote poetry and a hypothesis on the book of Revelations, at the very time that his mind was pregnant with the most severe calculations. And such a mind was precisely the one adapted for the discovery of fluxions and the system of the universe.

The habits of Jenner were perfectly simple, and the formality and reserve of society were foreign to him.

"In his latter years he was not a very early riser; but he always spent some part of his time in his study before he appeared at the breakfast table. When in London and at Cheltenham, he generally assembled his scientific and literary friends around him at this hour. Some came for the pleasure of his conversation; some to receive instruction in the history and practice of vaccination. In the country, where his guests were generally his own immediate connexions or his intimate friends, the originality of his character came out in the most engaging manner. He almost always brought some intellectual offering to the morning repast. A new fact in natural history, a fossil, or some of the results of his meditations, supplied materials for conversation; but, in default of these, he would produce an epigram, or a fugitive *jeu d'esprit*; and did not disdain even a pun when it came in his way. His mirth and gaiety, except when under the pressure of domestic calamity or bodily illness, never long forsook him; even in his old age, the facility with which he adapted his conversation and his manners to the most juvenile of his associates was truly interesting. 291.

Jenner's mind was an active one. He seldom or never passed a butcher's shop without a peep at its contents; because he often found something to illustrate his views of comparative anatomy and pathology. He generally carried a large pocket-book with him; and recorded his thoughts as they

occurred. His mind indeed was of a very inquisitive cast. He was ever starting some subject for consideration. Dr. Baron has often known him dictate to his young friends problems in physiology, pathology, or natural history for their investigation; and Dr. Baron candidly owns that some of the pathological questions which he has himself discussed, originated in this way, and were prosecuted with his help. He felt as all men of genius have done for the hardships of his less successful brethren. He used to say, laughingly, that medical men should follow the example of tradesmen, and bring their employers to a sense of justice by "a general strike."

It has been already seen that, notwithstanding the personal influence that Dr. Jenner had with foreign states, he had next to none at home. He never succeeded in procuring an appointment for any of his relatives or friends. He mentioned that all his attempts to get a living for his nephew George had failed, though addressed to quarters where they might, without presumption, have been expected to have met with attention and success.

But the time was at hand, when the emptiness of success, and the bitterness of disappointment would be alike disregarded.

On the 6th of August, 1820, he was walking in the garden, and became suddenly faint and giddy; he sank to the ground, and his hat dropped off. How long he remained in this state could not be ascertained, as he contrived ultimately to get into the house, where he was found in a somewhat confused state; and his clothes covered with earth. From this attack he gradually recovered, but he became remarkably sensitive to external impressions, particularly to sharp sounds, like the click of a knife upon a plate. He felt as if an electric shock shot through his frame. It cannot be a matter of surprize that he occasionally expressed impatience.

In the evening of the 24th of January, 1823, Jenner visited an old school-fellow and friend, who after exposure to severe cold became apoplectic. Next morning, he arose as usual, was informed that his friend was dead, and seems to have made a memorandum of his case. He went down stairs to his library.

"As he did not appear at breakfast, the servant was sent to ascertain the cause. On entering the room, he found that he had sunk from the couch on the floor; and that he was lying in a state of insensibility. His nephew, Mr. Henry Jenner, and Mr. Henry Shrapnell, were with him in a few minutes, and administered the most judicious remedies. A messenger was sent for me; and I reached Berkeley about two in the afternoon. I found him in bed, lying in a complete state of apoplexy. The right side was paralysed; the pupils of the eyes contracted to a point, and unaffected by strong light; the breathing stertorous, with a general insensibility to almost every external impression. Every effort was employed to arouse him from this condition; but the fatal character of the malady became more and more apparent, and he expired about three o'clock in the morning." 314.

Thus died Edward Jenner. He was buried at Berkeley by the side of his wife. A summary of his character appears unnecessary, for every page of his life has shewn him in the same light—a good, and in many respects a great man. His epitaph, like Wren's, may be safely written:—

"Si velis monumentum, circumspecte."

The combination of moral worth and intellectual eminence is too valuable as an example to be lost sight of. All who wish well their species should insist upon it, and hold it up for veneration. We do not regret the space we have devoted to the life of Dr. Jenner.

Periscope ;

OR,

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodcunque potest, atque addit acervo."

NOTICES OF SOME NEW WORKS.

THE INFLUENCE OF RELIGION ON HEALTH AND THE PHYSICAL WELFARE OF MANKIND. By *Amariah Brigham*, M. D. Boston.

MAN is, by Nature, a religious animal, but since the first creation down to the present moment, superstition has been to true religion as ten thousand to one. The miseries engendered by the *former*, in all ages and countries have far more than counterbalanced the blessings that naturally flow from the *latter*. Even under the divine dispensation of Christianity, how much hatred, malice and all uncharitableness is daily put in action by the clashing of doctrines and creeds amongst the different sects of the same religion! It is a most melancholy and humiliating task to even glance at the sufferings to which frail humanity has been subjected by the credulity, prejudice, bigotry and superstition of man himself! The ancient Egyptians did not shed the blood of animals on their altars, yet they sacrificed men to their gods—and every year a virgin to the Nile. Aristomenes, called the *Just*, slew three hundred noble Lacedæmonians at the altar of JUPITER at Ithome! The Lacedæmonians could not complain, as they offered victims to Mars. The Romans were not behind the Greeks in this respect. Many of the captives were sacrificed to Jupiter Capitolinus—and Caius marius sacrificed his only daughter, Calphurnia, to insure a victory over the Cimbri. Augustus Cæsar immolated three hundred chosen men, on the Ides of March, at an altar dedicated to the manes of his uncle Julius! The Gauls and Germans were as bloody as any of the ancients. The horrors of these sacrifices drew from Plutarch a remarkable passage, the abbreviated purport of which may thus be stated. "Would it not have been better for these nations to have had no traditions or conceptions of gods at all, than to have worshipped deities who esteemed human victims the most acceptable offerings, and who delighted in the blood of man?" If we range over the historic page to the far West, we find proofs of human sacrifices from Terra del Fuego to the Falls of Niagara; and when, weary and disgusted with these degrading spectacles, we turn to the glowing Orient, and survey the vast plains and snow-clad mountains of China and Hindostan, we see nothing consolatory—especially in the latter. Even to this hour, the wheels of Juggernaut crush the bodies and bones of hundreds of human beings—the burning pile receives the shuddering widow—and the aged and infirm are carried down to the shores of the Ganges, where they are deposited at low-water mark, that the waves of the holy river may flow over them, and bear the immortal spark to the ocean whence it may fly back and be absorbed into the essence or deity from which it was first emitted!

Time and the growth of reason have obliterated these immolations from most nations, and are diminishing them in all; yet still, even in the most civilized Christian states, there are certain rites, ceremonies, observances—but especially feelings and opinions, which may well occupy the attention of the medical

philosopher as bearing on health and disease. We shall glance briefly at some of these which are considered in detail by Dr. Brigham.

1. *Circumcision*.—There is no doubt but that this ceremony was, at first, not a religious one. At all events it was practised by the ancient Egyptians, long before the introduction of Judaism or Christianity. That the practice is salutary in hot climates we believe; but we are far from thinking it beneficial in cold countries.

2. *Castration*.—Was a religious ceremony amongst the priests of Cybele and of Atys. Moses, however, prohibited it, and the Mahomedans continue it for other than religious reasons. It is curious that it seems to be sanctioned in the 19th Chapter of St. Matthew—and the great Origen and some of his followers emasculated themselves! The influence of this mutilation on the morale and physique of man is well known.

We shall pass over the *flagellation* of the ancient Christians—the cuttings and maimings of the Persians, Hindoos, &c., and come to the 3d Chapter, on

Monachism and its Austerities.—Waddington remarks that the monastic spirit was congenial to the scenery and climate of the East, and to the peculiar character of the inhabitants. Vast solitudes of unbroken and unbounded expanse—rocks with strange and grotesque outlines—while a dry air and unclouded sky offered facilities, if not temptations, to a wild, contemplative, and unsocial life. It was in the early part of the fourth century, however, that Christian Monachism became established—and by the middle of the sixth century monkery had so increased that, according to Mosheim, “whole armies of them might have been enrolled without any sensible diminution of their numbers.” A Spanish writer states that he counted in Spain 47,000 abbeyes, 40,000 priories, and 14,000 convents!

“I hardly need add that this kind of life is injurious to the health, both of body and mind. Medical writers enumerate many diseases to which these religious recluses of both sexes, were peculiarly liable. Besides, a life thus passed, contrary to the wishes of nature, has the effect to render the character austere, despotic and often melancholy; and at the same time, disposes to exaltation and excitement of the brain and nervous system, and gives rise to innumerable nervous complaints.”

In by-gone days, when the priests led hermits’ lives or kept cloistered in their monasteries, the austerity in question did, no doubt obtain; but now the men of God mix with society, partake of all the good things of this life—except matrimony—and enter not a little into the feelings, political and social, of mankind; so that, in fact, they are little distinguishable from other people, except by their canonicals in the chapel.

Of *fasting* little need be said. Like most other religious injunctions it was designed for health. The fast of the Ramadam, for instance, is observed during the hottest season of the year, and its effects were, doubtless, beneficial. The spare diet of the Hindoo, and the prohibition of animal food, may be referred to the same origin. The Lent of the Catholics tends to keep them in health, and it would be curious to know whether that class of religionists is longer lived than Protestants or other sects.

The fourth chapter investigated the influence on health of certain religious rites and ceremonies, as the Lord’s supper—baptism—places of worship—night-meetings, &c. for which we must refer to the work itself, as containing a great deal of curious and interesting information.

In the 7th Chapter our author discusses the injuries to the brain and nervous system from the excitement and depression resulting from religious meetings and religious meditations. This is an exceedingly valuable chapter, and we wish it

could be perused by all clergymen, especially the evangelical ones—and all those who think, or seem to think, that our Creator sent us into this world for no other purpose than to weep and wail, and mortify the flesh for the salvation of our souls. Yet such would not appear to be the design of the Omnipotent BEING who was the author of our existence. He would not have endowed man with organs and capacities for the enjoyment of all Nature's gifts, had he not intended that these gifts should be enjoyed.

The work concludes with a short chapter on the utility of the Sabbath as a day of rest, religious duties, and enjoyment—not of gloomy fanaticism, austerity, and privation.

“But if the divine command given in the Old Testament, on this subject, does not oblige us to keep this day, then we have none whatever. Christ has not given us any. Still I think he must have approved of it as a day of rest, for he found such an institution to exist, and he said nothing against it in this respect, though he condemned the strict Jewish observance of it. When charged with not observing it himself, he replied that ‘it was lawful to do well on the sabbath days.’ But it should be borne in mind, that he constantly taught that it was necessary to do well on all days. It is pitiful to see the efforts of some men to belittle this subject, and misunderstand and misrepresent the Christian duty in relation to the sabbath, and endeavour to make mankind believe that it is an offence against God to walk, ride, visit friends, or even to abstain from hearing sermons on that day. They seem not to be able to comprehend the difference between the teachings of Moses and Christ. While the former established rites and ceremonies, the latter sought only to create in man the sincere love of his Creator and of his fellow men. The high aim of Christ was to make men do well on all days, not one particular day—to establish the love of God and man in the heart of man, not to establish a particular form of worship. Such was the great purpose of our Saviour—and thus it happened that the early Christians abandoned the Jewish sabbath, and established another devoted to rest, enjoyments, and deeds of charity and love.” 316.

With this sensible extract, which we would recommend to the perusal of Mr. Plumptre and Sir Andrew Agnew, we take leave of our author, with every sentiment of respect for his talents and erudition.

BUXTON AND ITS WATERS—An Analytical Account of their Medicinal Properties and General Effects. By *W. H. Robertson, M.D.* Duodecimo, pp. 147. London, 1838.

ENGLAND is not blessed with those numerous subterranean fires which boil the water and warm the air for our Continental neighbours. Our latent volcanos—few and far between—are also upon an insignificant scale, compared with those in France, Spain, Italy and Germany. No wonder that our climate is cold, wet, foggy, and variable—and to crown our misfortunes we are doomed to drag out a protracted, though vigorous existence, beneath our gloomy skies, of from ten to fifteen years longer than the blessed inhabitants of the most favoured climate in the world. Nature is a step-mother. She orders her inexorable executioner to mow down with his scythe a thirtieth part of mankind annually from the lovely vales of Italy, where existence is a kind of Paradise, but only sweeps away a fortieth or fiftieth of those ill-fated islanders—“*toto orbe divisos*”—doomed to breathe a misty atmosphere, and bide the pelting of the pitiless storm.

But to our work. Bath, Bristol, Buxton and Matlock, are, we believe, the only thermal springs of any note, in England. The Romans, who considered the warm bath as constituting one third of all that was worth living for—*Balnea, Vina, Venus*—appear to have smelled out Buxton, since many of their

utensils and roads have been discovered there. It is situated on a high cold ridge, a thousand or more feet above the level of the sea, and sends forth a thermal spring in abundance, at a temperature of about eighty degrees of Fahrenheit. The analysis given by Sir Charles Scudamore, and conducted by Mr. Garden, is the most recent, and probably the most correct. There are about 15 grains of solid matter in the gallon—two thirds of which consist of carbonate of lime. There are also about six cubic inches of gaseous matters in the same quantity. The other ingredients are very small portions of muriate of magnesia, soda, and sulphate of lime. Like the baths of Pfeffers and Wildbad, there is a constant stream of water, and consequently an equality of temperature preserved.

“How little is to be learned as to the effects of these waters on disease, from a knowledge of their chemical composition and temperature, is fully shown by the following results, which have been gathered from the reports of the Buxton Bath Charity for the last eighteen years—from 1820 to 1837, both inclusive. Deducting the cases which have remained on the books at the time of making up every yearly report, from the total of the cases admitted during the year, and adding these cases to the total of the cases admitted and dismissed before the making up of the following year's report, it appears that 21,468 patients have been admitted on the books of this charity within the above-mentioned period. Of these, 6,562 have had medical advice, medicines, and the use of the baths, gratuitously. The remaining 14,906 cases have had the gratuitous use of the baths and medical advice, and been supplied with all necessary medicines, and received pecuniary relief to the amount of five shillings per week for the space of three weeks. Of these latter cases only, has an account been kept, as to the degree of benefit derived from the use of the waters. It appears that of the 14,906 patients, 12,608 have been dismissed ‘cured or much relieved,’ the remainder having been either little relieved, or no better at the time of dismissal. When it is remembered, that nearly the whole of this vast number of cases have been chronic cases, and that hardly any of them have been longer than three weeks in Buxton, the amount of relief afforded would be sufficient proof, if proof were wanting, that these waters are of powerful efficacy, and that the amount and character of their effects must be judged of by the results of cases and not by a mere reference to their chemical composition.” 64.

After an exposition of the general physiological effects of bathing in non-medicinal waters, our author observes that the effects of the Buxton waters are different from those of common waters. If properly managed, they act as a sedative in cases of excitement—as a febrifuge in cases of fever. Their most remarkable effect is that of a stimulus. A man in health cannot bathe often in them with impunity. A person therefore must not be in a state of plethora, local or general, when he uses these waters—in short, he must be below par in health.

“In nearly every case, the effect produced by these waters, when used internally, unless in those whose systems from long use have become habituated to them, and unless the individual's powers are below the healthy standard, is *excitement*, an approach to feverishness; with the thirst, restlessness, &c., consequent thereupon. In most cases this yields to a dose of common aperient medicine, and it is seldom that any further inconvenience is occasioned by them, than may be relieved by having recourse occasionally to these simple means. Far different is it when these waters are used externally, in the form of bath, and as often as three or four times a week. The excitement thus produced is greater than exercise, or attention to diet, or regular hours, or repeated doses of opening medicines can subdue; and it is found necessary to desist from bathing, and in most cases to lower the system considerably, before the feverish state thus produced can be moderated, and health restored. These effects are all aggravated materially, if there had been a state of excitement present before the baths were

used, or if the digestive organs had been deranged, or if any of the internal organs had been excited, or prone to excitement. Every year many cases of very serious illness occur, from a very few baths having been taken under such circumstances as these. How it happens, that a man who has used the shower bath, or the cold bath, or the tepid or hot bath, or who has been accustomed to bathe in the sea, or to use hot or tepid sea-water baths, and without injury, or perhaps with benefit, is thus excited and thrown out of health by bathing a few times in these waters, is a question which strikes at the root of the *modus operandi* of the Buxton waters; and this must be admitted to be quite inexplicable." 75.

Their temperature being 82° they, of course, communicate a chilly feeling on first immersion; but is followed, in a few minutes, by a glow of excitement, and the skin is speedily cleared of scurf and impurities, in consequence of the alkaline ingredients. The rheumatic patient usually loses his pains for a time—the debilitated invalid his sense of weakness—and the cripple his lameness. Their effects on the animal spirits are exhilarating.

"In from a few seconds to ten or twelve minutes, the individual leaves the water, with a delicious sense of warmth through his whole system, with a full consciousness of the unbounded enjoyment that attends the active discharge of the vital functions. Supposing him, as we have done, to be in a state of health, he finds, for the next twenty-four hours, that all his energies are augmented, that his appetite is sensibly increased, his digestion unusually active, his mind singularly free from despondence or irritability. This may be said to be the primary effect of the Buxton baths, they are immediately stimulating, not only to a much greater degree than ordinary water of the same temperature, but to a greater degree than any mineral water I have heard of." 77.

We fear Dr. Granville will feel a little jealous lest his magic bath of Wild-bad should be eclipsed by the more homely springs of Buxton.

If a man in health were to persevere with the Buxton waters, the exhilaration and excitement above described would change into a sluggish condition of the vital functions—torpor—and feverishness. Nothing but aperients and antiphlogistics would relieve these symptoms. But even where the system is in a fit state for the Buxton waters, and the disorders such as they generally cure, debilitating effects supervene upon the use of the waters after a certain time, and therefore they require watching. The duration of a course of the Buxton waters is exceedingly various. The average duration of the immersion is from four to twelve minutes—the average frequency of bathing every second or third day.

After what has been said of the properties of these waters, it will be evident to every medical reader that they are only proper in chronic affections, particularly rheumatism and gout, and where nothing like active inflammatory action is going on. Yet it is wonderful how many people are sent to these and other Spas with diseases the most opposite, and labouring under affections that must be injured not benefitted by the medicinal springs. With the following quotation we shall close our notice of this little work, which will prove very useful to the general as well as the professional reader.

"After what has been said of the effects of these waters, and of the states of system in which their use cannot but do harm, it will not fail to excite surprise that people should visit Buxton—many of them, I am sorry to say, by the recommendation of their medical attendants—for complaints the most dissimilar in nature, stage, and degree. Numbers of the unhappy victims of pulmonary consumption, numbers in an advanced stage of hepatic disease, are found every year among those who have come to make trial of these waters. Not long ago, I saw a case of affection of the head, following a blow on the occiput, and attended and probably kept up by irregular action of the heart, which required depletory measures to be had recourse to, that had been sent to try the baths of Buxton by a medical man who does not reside at a greater distance than thirty miles

from this place. Cases of acute rheumatic inflammation of the joints are continually presented to us, which require an active course of local bleeding, blistering, &c., preparatory to a trial of the waters; which treatment involves a considerable loss of time, sometimes puts the individual to serious pecuniary inconvenience, sometimes renders it impossible that he should give the baths a trial, by causing his scanty funds to be expended before he is in a fit state to use the baths, and which treatment might have been undergone at his home, with equal advantage.

So extensively do these evils operate, that in a very large proportion of the cases we meet with, the nature of which happens to be such as these waters are calculated to relieve or remove, a course of preparatory treatment before quitting home would have been of much use; and in very few cases has anything of the kind been done to an adequate degree—it might almost be said to any degree.” 112.

PRACTICAL OBSERVATIONS ON HYSTERIA, ESPECIALLY RELATING TO ITS ORGANIC CHARACTER. By *John Prichard*, M.R.C.S., and Surgeon to the Leamington Hospital. pp. 36. Churchill, June, 1838.

THE Proteus Hysteria has puzzled old and young in the profession, from the time of Hippocrates to that of Mr. Prichard. The experienced practitioner perhaps detects the disguised shapes which the malady assumes, while no small number of the younger branches mistake these shapes and forms for diseases of a different, often dangerous character. Sydenham attributed hysteria to “an irregular flow of animal spirits,” which is saying nothing at all—but a great majority, we apprehend, of the faculty have taken the same view of its nature, or rather cause, as our author, namely—“uterine disturbance.”

“This disturbance may be slight, and with difficulty detected, especially if we rely on the information which a cursory examination elicits from our patient. If the menstrual period returns with any thing like regularity, we are assured that all is right in that respect; but if we push our enquiries to the quantity of the discharge, its character, (whether pale or dark, fetid or not, coagulated or otherwise,) the pain which accompanies it, especially on its accession, and the state of the uterus in the intervals, (whether affected by leucorrhœa, or by an occasional sanguineous discharge,) we shall probably arrive at evidence of functional disturbance, if not of structural mischief.” 4.

If we admit that the slightest deviation from healthy uterine function furnishes adequate cause for hysteria, we shall seldom be at a loss for the existence of such cause. We shall, indeed, find this “uterine disturbance” in thousands of females who present no symptom of hysteria at all. Our author’s theory will be gathered from the following passage.

“That the nervous system is the agent by which this sympathy is communicated, is now generally acknowledged; and, in the production of hysteria, I am induced to regard its agency as affected in one of two ways—the operation of one or the other being determined by the state of the source of irritation, and producing a class of symptoms ‘sui generis’ in either case. I look upon the hysteric paroxysm, hysteric catalepsy, aphonia, dysphagia, &c., as originating in an excited state of an organ, the powers of which, intimately connected with the mind, are developed, and not exercised; and as communicated to the cerebrum, producing its immediate effect there, or thence transmitted to other parts of the nervous system, and especially to the par vagum and its important connexions. These affections occur for the most part to young females; but there is another period of life when the connexion between the cerebral and the uterine system gives rise to a train of vague and anomalous symptoms, no less

alarming to the patient, than easy of relief by properly directed treatment; the periodical discharge, having perhaps duly returned for a space of thirty years, (excepting on occasions when the whole vascular energy of the uterus has, if I may so speak, been otherwise engaged,) abruptly ceases; the constitution, long accustomed to its influence, does not readily accommodate itself to the change, and the cerebral system soon partakes in the consequent disturbance. These affections then, whether the first, or the last named, I would place under the head of *Cerebral Hysteria*, in contra-distinction to those painful local affections, constituting another form of the disease, which I would call *Neuralgic Hysteria*; in these last cases the irritation seems to be communicated directly by that sympathy which one part is known to have with another, and, if I mistake not, will generally be found to arise from either diseased action, or disturbed function in the uterus. I am the more inclined to assume this distinction of the communicating media, from a consideration of the fact, that all the symptoms of the hysteric paroxysm may occasionally be witnessed in the male subject under the influence of cerebral excitement. I am willing however to admit, that these different states may, and do readily, lapse, the one into the other; or in other words, that the excited uterus is prone to assume diseased action, and that generally of an inflammatory character.

Thus then I would divide hysteria into two kinds, each arising from uterine irritation; but this irritation essentially differing in character in either kind, and the effect produced illustrating the character of the cause producing it.

With what I have ventured to name cerebral hysteria this enquiry has little to do; inasmuch as, originating in excitement merely, its effects generally end there; it is the Neuralgic form of the disease which more particularly bears upon the question under consideration. Before I proceed further, it will be well to refer to a modification of hysteria, by no means uncommon, and which does not seem to come precisely under either of these heads, inasmuch as the irritation is communicated (probably through the medium of the cerebrum,) to some portion of the spinal cord, inducing loss of muscular power, with perhaps excessive sensibility, in the parts which derive their nervous influence from the portion of the cord affected. I would ask whether the effect produced in these cases upon the medulla spinalis is simply irritative, or whether there does not exist an inflammatory action in the *theca* of the implicated nerves at their origin? Dr. Bright has given some very marked and instructive cases of this affection; and under this head my experience would lead me to place the cases of 'spinal irritation of Dr. Burns, as well as those of 'anomalous affections of the spinal cord, related by Dr. Abercrombie.' 7.

Mr. Prichard relates an example of this kind that occurred in a female 26 years of age, highly susceptible, and who had been long confined to her bed from loss of power in the lower extremities—pain in the abdomen on pressure—dysuria—dysmenorrhœa—leucorrhœa, with a kind of "noli me tangere" sort of susceptibility. The spine was acutely sensible about the last dorsal vertebra. A steady and long-continued treatment directed to the restoration of the uterine function, effected a complete cure.

"I will now advert to Neuralgic Hysteria, properly so called. Cases of extreme local irritability, with perhaps slight, or no other appearance of diseased action, and occurring in females, the disturbance of whose constitution denotes the Hysteric diathesis, are familiar to every practitioner. The part affected may be one of the larger joints, the stomach, or large bowels, the pleura, or peritonæum, or it may be the mammary gland: in either case, before the irritation has thus fixed itself, it has probably existed in the shape of shifting pains in different parts; the pain, however, once fixed, may remain for a considerable time without any other symptom of diseased action supervening; but, let the state of the general health, and more especially of the uterine system, be disre-

garded, and we shall find that, sooner or later, the neuralgic may assume the inflammatory stage and its consequences." 8.

Drs. Addison and Bright having given it as their opinion that hysterical irritation never goes on to inflammatory action, our author, with great deference combats this doctrine—and we think not without some success. Exclusive dogmas are seldom found to be just in medicine. Dr. Bright himself admits, that a local congestion may exist in the part which is the seat of hysterical irritation, and the line between irritation and inflammation is often impossible to be distinguished. What, indeed, is the one but a stage of the other? Our author here enters into a rather minute inquiry respecting perforations of the stomach, which he seems inclined to trace to hysterical neuralgia of that organ. He finds, on research, that of the recorded cases of this dreadful accident, the great majority were females. He seems aware, indeed, that the fact of males being subject to perforations of the stomach also, and where hysteria cannot be urged as the cause, is objectionable.

"But such cases, unconnected with scirrhus, or with such constitutional disturbance, are comparatively rare; neither do I consider that their occurrence affects the view which I have here taken of such affections in female subjects; it would be just as unreasonable to argue, that the vomiting of pregnant women is not connected with uterine sympathy, because we have occasion to observe vomiting in the other sex, from other causes. Chronic gastritis will lead to the same result in both sexes, but, I contend that it is of more frequent occurrence in females, and from the causes which I have named." 18.

Mr. P. has drawn up an indiscriminate synopsis of these remarkable cases from such works as were within his reach, and thinks the result bears out his theory. But the list is far from being sufficiently extensive to warrant fully our author's conclusions. We shall conclude with an extract on the treatment of hysteria.

"As regards the Cerebral Hysteria of young females, if we have recourse to an unstimulating diet,—to regular exercise, both of mind and body,—to the use of active aperients, combined with the antispasmodic remedies of former days,—I believe we shall have exhausted our stock of applicable means; a change to that state in which the maternal duties are assumed, may be regarded as certain to remove the evil.

With respect to those anomalous cerebral symptoms which are apt to accompany the cessation of the period, I have only to say, (and I say it with the greatest confidence) that in such cases, the exhibition of tonics (more especially the quinine, and the metallic tonics is general), is calculated to produce the worst effects; to the cerebral excitement already existing, they superadd the stimulus which they unquestionably exercise on the nervous system, and thus greatly aggravate the sufferings of the patient; nor are there wanting cases, in which this excitement, thus produced, has gone on to the production of mania, which has been quickly removed by a recourse to proper treatment. This treatment will be found to consist of active purgation and the occasional application of leeches; it is in these cases that the combination of the fætid gums with active purgatives, is of especial use.

I proceed to the treatment of Neuralgic Hysteria;—I have attempted to shew that it may present itself in a stage purely Neuralgic or Irritative, or in a more advanced form, which may be defined Organic. In either stage we may look for uterine disorder, (probably of an inflammatory character,) as its cause, if the effect be only irritative, it will be likely to yield to the application of remedies to the exciting cause; if, on the contrary, it is accompanied with inflammatory action, we must also administer that relief which will be found to ensue from local depletion and counter-irritants; in either case, we must carefully investigate the state of the uterus, and if we find evidence of inflammatory action there, our measures must be directed accordingly; the frequent application of leeches to

any convenient neighbouring part, (especially at the termination of a scanty and painful period)—local and general warm bathing,—the observance of a recumbent posture,—the rather free exhibition of mercurial alteratives, with mild aperients, an unstimulating diet, and sedative applications locally, will be found among the most useful remedies; on the other hand, should we detect a want of power in this organ, our remedies must consist of mild tonics, and generous diet, and other means likely to invigorate the system. As a tonic, in such cases, I can speak, from long experience, of the good effect to be derived from the *Mistura ferri aromatica* of the Dublin Pharmacopœia. It has appeared to me to be nearly free from the stimulating effects to which I have alluded; I have usually given it in combination with the Dec: Aloe: Comp: and a Pill of Gum: Galbanum and Myrrh, twice a day.

In the treatment of Hysteric gastralgia, it is essential to know whether we have to deal with mere neuralgic irritation, or inflammatory action; and this observation applies equally to the exciting cause and the effect produced. In this diagnosis, the peculiar habit of the patient, whether plethoric, or atonic; the character of the countenance, whether flushed or pallid; the appearance of the tongue, and the state of the uterine function, will be chiefly considered; or it may be that our suspicion of the inflammatory nature of the disease shall be first awakened by finding the ill effects of tonic remedies, and the contrary relief from local depletion and counter-irritation. Mr. Langston Parker, in his work on the Stomach, places little or no reliance on the appearance of the tongue, as indicative of the state of that organ; he mentions its pale, flaccid look in some cases, where, after death, inflammation of the mucous membrane was detected. He, however, subsequently observes 'one condition of the tongue may be alluded to, which is almost invariably an index of *gastric inflammation*,—it is when this organ, not materially changed in other circumstances, presents, at the point and edges, a number of vividly red points, resembling grains of vermillion, scattered over the tongue, and appearing to be the papillæ enlarged, and supplied with an increased quantity of blood: I believe this condition is seldom found unaccompanied by vascular irritation of stomach.'

There is certainly a state of the tongue, characteristic of uterine disorder, in which it appears pale, flabby, and smooth, or it has, as it were, a soaped appearance down its centre, leaving a margin on either side and the tip, smooth and glazed. But I am inclined to think that where gastric irritation is connected with inflammatory mischief, the tongue will generally be found either as described by Mr. Parker, or with a glazed, moist, pinky surface.

I would here suggest, that, supposing the view which I have taken of Hysteric Gastralgia to be worthy of consideration, it will behove us to adopt a rigid plan of simple diet, and to persevere in local depletion and counter-irritation from the moment that we find the symptoms are not relieved by the usual remedies." 36.

We think Mr. Prichard deserves credit for his inquiry, and hope it may lead to some improvement in the treatment of this troublesome malady.

A FACT IN THE NATURAL HISTORY OF CHILDREN, HITHERTO UNOBSERVED;
WHICH EXPLAINS MUCH CONCERNING INFANTILE DISEASES AND MORTALITY.
By John Gardener, Surgeon. 8vo. pp. 23. 1838.

THIS fact—or fancy—is that in a great many children the brain is unequally developed in all its parts, and that this—"irregular—unequal—accelerated—abnormal, rate of growth of the brain, or of any part of this organ, gives a peculiar character to a child's constitution, rendering it vitally weak, susceptible

of morbid impressions, and an easy prey to ordinary diseases." p. 9. This deviation from the healthy development and normal form of the brain, Mr. G. denominates kephalosis, and he avers that, from long experience and observation, he is able to detect these abnormal growths in the heads of children, and gives us several sketches or wood-cuts illustrative of them. Mr. Gardener falls foul of the phrenologists; but we are unable to touch on that delicate subject.

"The age at which kephalosis most prevails is from six months to two or three years; but it may occur at any time from birth to the tenth year, beyond which age my observations upon the changes in the form of the head do not extend. Parents who have sickly children, who have lost a child, or who are anxious to preserve those they possess, will do well to direct their attention to the form and growth of the head at the earliest period, and they will thus be able to discover their tendencies while there is time to avert the danger.

Signs of Undue Development of Brain, concomitant with the Changes in the Form of the Head.

10. The integuments and skin of the head in these children have a smooth stretched appearance, and a deep flush follows every slight excitement. The veins are larger and more distinct than usual about the forehead and temples, and easily become full and turgid—as in crying; the head is apt to become hotter than the general surface, and is often bathed in perspiration, especially at night; the hair is frequently redundant and strong, but sometimes it is very deficient.

The fontanelle or open part of the head is large, its edges thin and stretched, and it varies its state of elevation or depression upon slight causes.

The mind of these children is generally premature, their affections lively, and temper quick and excitable; these qualities render them more than ordinarily interesting. They are more than commonly wakeful, or sleep lightly and are easily disturbed.

Their muscular system is sometimes well developed, as shewn by fine limbs, and an early ability to walk—but this is when the brain does not deviate very seriously from a sound state,—more frequently and in severer cases, the power of walking is protracted, the balancing power of the will being deficient.

A general irritability and exciteability of frame (often deemed characteristic of all children—but much more marked in some than in others, as all persons acquainted with children must have observed) is almost always associated with the condition of head above described: And looking at the offices the brain sustains in the system, there can be no doubt of its depending upon and flowing from it.

At the same time, it will be obvious to every physiologist, how an opposite set of symptoms may flow from a morbid brain, dulness, heaviness, stupor, and a preternatural immobility; but such consequences are comparatively rare." 17.

The consequences of these abnormal states are head diseases—especially hydrocephalus, inflammation of brain or membranes, paralysis, croup, &c. The causes of kephalosis, he thinks, are hereditary predisposition, and over-working of the brain itself. The author makes no allusion to the means of counter-acting or curing this kephalosis, but as the pamphlet is only the forerunner of a volume on the diseases of children, we shall look to that for more minute details. The brochure is extremely well written, but we cannot help suspecting that the "FACT," after all is somewhat tinged by fancy.

PRACTICAL COMPENDIUM OF THE MATERIA MEDICA, WITH NUMEROUS FORMULÆ, ADAPTED FOR THE TREATMENT OF THE DISEASES OF INFANCY AND CHILDHOOD. By *Alexander Ure*, M.D. Duodecimo, pp. 239. Schloss. 1838.

To Frankel, of Berlin, the author is indebted for the original idea and plan of this little work—as well as for much of the materials of the book. Dr. Ure appears to have directed his attention much to the nature and treatment of infantile diseases, while following the clinical practice and instructions of Barez in Berlin, and Guersent in Paris. In a preliminary dissertation of 70 pages, the author introduces some excellent and judicious directions for the young practitioner, as to bleeding, both general and local—blistering—vomiting—enemata—bathing, &c. drawn from various, and generally the best authorities of this and of foreign countries. Then follows the materia medica, arranged in alphabetical order, according to the last edition of the Pharmacopœia. On this account some of the Continental prescriptions are necessarily modified. It cannot be expected that we should examine, much less analyze the multitude of formulæ in this little manual. Many of them, we confess, are such as will never—or at least, *need* never be used—but the great majority of them are useful prescriptions—and not a few of them will be found new to the English reader. We shall offer the following *specimen* of the work, for reasons which will soon appear.

“**ARGENTI NITRAS.** *Lunar Caustic* is considered tonic and antispasmodic. It has been given in stomachic epilepsy and chorea, in the dose of 1-8th of a grain, gradually increased to 2 grains. Ryall recommends the external application of a solution of nitrate of silver, (ij. to iij. grains to an ounce of water,) injected betwixt the eyelids, as the most efficient remedy in the blennorrhœal ophthalmia of new-born children. When applied in solution to the mucous membrane of the mouth in the case of aphthæ, or to the fauces in cases of diphtheritis of the pharynx, larynx, or trachea, the new action, induced in the part to which it is applied, according to Dunglison, extends to the membrane lower down, and exerts at times the most salutary agency. The exudation of coagulable lymph, which has been proved identical with coagulated albumen, and which constitutes the false membrane in cases of diphtheritis, frequently begins on the surface of the tonsils, and thence spreads along the arch of the palate, and ultimately descends over the internal surface of the pharynx and œsophagus. According to Dr. Mackenzie, the application of a solution of the nitrate of silver to the tonsils, velum palati, and uvula, frequently removes this plastic exudation, produces manifest relief of the symptoms, and ultimately even dispels them. The solution he uses is 20 grains of the salt to an ounce of distilled water. The astringent effect upon the part of the mucous membrane, with which the solution is made to come in contact, says Dunglison, may be propagated by continuous sympathy to the part of the trachea lined by the false membrane, a new action may be induced, the albuminoid substance detached, and ultimately thrown off, unless a complete adventitious tube be formed in the trachea, when from the narrowness of the larynx its evacuation is impracticable. Gendron, Stephen Brown, Guimier, found the above mode of cauterization in croup useful, partly as a styptic, partly as a pertubent agent.

Demiron suggested the application of nitrate of silver to small-pox. The pustules are to be punctured, and then touched with a hair-pencil dipped in a solution containing 15 grains to the ounce of water. When the cauterization was performed on the first day, the eruption was seldom developed; the face became swollen, about the seventh day exhibited slight fissures, from which nothing exuded, and the skin desquamated, leaving no perceptible cicatrice, merely a few red spots. When cauterization was performed, on the second day, the

formation of pustules, though not arrested, was lessened, and the scars were quite superficial. Beyond the second day, cauterization was inefficient. Velpeau lays open the fully-formed pustules, and cauterizes them along with the adjacent integument with solid nitrate of silver. This method, according to him, checks the development of the eruption, hinders the ophthalmic affection, and moderates the sympathetic disorder of internal organs, especially of the brain. Other practitioners differ on this point. Husson saw death consequent upon cauterization in two cases, and Heller lost a patient from the same cause. Gerardin observed in the Hospital for children, alarming accidents from the escharotic plan, particularly inflammation of the brain. (*Meissner's Forschungen des 19 Jahrhunderts*. Bd. vi. 1833). Gölis derived advantage from touching the sanguineous tumors of new-born infants, and erectile tumors with the lunar caustic.

A lot of nitrate of silver of variable strength, according to the degree of local irritation, is a powerful remedy in scaly eruptions of the scalp. The hair ought to be previously removed, and the diseased surface cleansed by means of carrot poultices. An ointment containing 10 grains to the ounce of lard, has been introduced, and advantageously used by Mr. Guthrie, in chronic inflammation of the conjunctiva. It ought to be recently prepared, and well rubbed in over the diseased surface. The nitrate of silver solution is an admirable application to fungous excrescences and unhealthy sinuous sores. In burns of the first degree, that is, where there is only erythematous redness, the slight contact of the nitrate of silver removes the pain and prevents any subsequent vesication; confluent aphthæ may be treated in a similar manner.

In the dusky red, erysipelatous inflammation existing in the fauces without ulceration or sloughing, the free application of a strong solution of nitrate of silver, (ten grains to the ounce,) to all the parts implicated, is recommended by Messrs. Evanson and Maunsell.

53

R Argenti Nitratis, gr. iss.
Tere cum Micæ panis, q.s.
ut fiat massa in pil.
xij. æquales dividend.
M. One thrice a day in epilepsy.

53

R Argent. Nitratis pulveriz., ℥j.
Carbonis fagi, ʒj.
M. ft. Pulvis. For insufflation upon
the eye in blennorrhæal inflammation, with
ulcers of the cornea.

54.

R. Argenti Nitratis, gr. x.
Ung. Cetacei, ʒj.
Liq. Plumbi diacet, m. x.

M. In passive Inflammation of the conjunctiva.

Guthrie." 22.

Upon the above we have to remark that the nitrate of silver should always be made into pills with extract of liquorice instead of crumb of bread. The dose mentioned in this extract is much too small, especially for adults; but it is a fair dose for children. We shall here mention a curious, and we hope it will turn out to be an important piece of information which has lately come to our knowledge. A gentleman took nitrate of silver in large doses (4 or 5 grains daily) and for much too long a time—several months, for the cure of epilepsy. The cure was effected, but the skin turned intensely blue.* The gentleman, who

* We believe that medicines more frequently fail from want of discrimination in the doctor than want of efficacy in the drug. Much discredit has been brought on the nitrate of silver by want of precaution in the prescriber. We lately gave a striking illustration in the case of the blue gentleman of Eaton-square. The present case is another, where a gentleman of talent and merit, but now no more, neglected to warn his patient respecting the duration of the course, and the consequence was that he continued the medicine till the skin turned blue.

was in Scotland at the time, was greatly annoyed by this event, and applied to a country practitioner on the occasion. The medical man (whose name we do not know) advised him to take a drachm of acidum nitricum dilutum, daily in a pint of barley-water, and to sponge his hands and arms twice a day with the same, as a trial, before he applied it to his face. The patient continued this for several weeks, when he applied to the writer of this for advice as to further operations. To our surprise we found the hands and arms nearly as white as they ever had been while the face and rest of the body were very blue. The patient asserted, however, that his skin was not now nearly so blue as before he used the nitric acid, though it certainly was quite blue enough. The reason of his consulting the writer was to know if the application of the lotion to the face would be attended with any danger. He was assured in the negative, and is now taking the acid and using it externally. He promises to report the result; but there can be little doubt that, as it has removed the blue colour of the hands and arms, it will ultimately restore the natural colour of the face. This will be an important discovery of our northern friend the surgeon.

FIRST PRINCIPLES OF MEDICINE. By *Archibald Billing*, M. D. A.M. &c.
Third Edition. London, Highly, 1838.

THAT a third edition of this book should be now called for, considering that little more than twelve months have elapsed since the second edition appeared, is only what might be anticipated by those acquainted with its merits. The object of the author is to point out the necessity of deducing the treatment of diseases, as far as that can be done, from the ascertained and established laws of life, that is, from physiology. Without such a mode of proceeding the practice of medicine must be neither more nor less than blind empiricism.

"Many persons," says the author (p. 40) "practise well empirically without much brains or reasoning; but he who begins upon principle, and then profits by experience, must be a much more skilful practitioner." The remarks of our author (p. 5.) on the great advantage of combining opium with antiphlogistic measures in the treatment of inflammation, or more correctly speaking, in supporting the system, after the necessary depletion has been employed, when the inflammation is subsiding or past, are excellent; they give the rationale of such treatment very satisfactorily. For the rationale of the treatment of acute and chronic inflammation by the metallic salts (mercury, antimony) and for valuable practical observations on this very important subject, we refer the reader to pp. 64-70

On the action and nature of stimulants, sedatives, and tonics, and their appropriate employment, see p. 74, &c. The great influence of the nervous system in the production of disease, has been explained most lucidly. In illustrating the nature of morbid, and more especially of inflammatory action, our author has been peculiarly happy. In his illustrations he has taken good care to avail himself of the principal discoveries of modern science, more particularly with respect to the cerebro-spinal and ganglionic systems of nerves. In fact we know of no book which contains, within the same space, so much valuable information, the result not of fanciful theory, nor of idle hypothesis, but of close, persevering clinical observation, accompanied with much soundness of judgment, and extraordinary clinical tact. He has evidently availed himself to the fullest extent of the splendid opportunities he has enjoyed for some years by the situation he holds of physician to the London Hospital, in which capacity, by the way, if we remember rightly, he was the first to introduce the custom of giving regular clinical instruction into the London School of Medicine. We shall terminate our brief notice of the work by earnestly recommending its attentive

study to every class of medical students; nor do we think we should be going too far, were we to say that the practitioner will derive much important information and sound practical views of treatment from its perusal. Our advice is, *Indocti discant, ament meminisse periti.*

OBSERVATIONS ON THE MANAGEMENT OF MADHOUSES, ILLUSTRATED BY OCCURRENCES IN THE WEST-RIDING AND MIDDLESEX ASYLUMS. By *Caleb Crowther, M.D.* Duodecimo, pp. 145. Simpkin and Co.

In this small pocket volume a great number of important questions are discussed; and not a few severe censures levelled at those who will not fail to feel them. Dr. C. sets out by declaiming against the idea and the practice of confining the treatment of insanity or any one disease to an exclusive practitioner on this or that complaint. The following is tolerably caustic.

"We possess excellent monographs of diseases of the heart, lungs, brain, and eyes, but let the reader notice by whom these treatises are written; not by men exclusively attending to one disease, but by men distinguished for their extensive and superior general knowledge. If the superintendent of a madhouse, an oculist, an aurist, or a watering-place doctor should happen to publish on the disease which he pretends to cure, you find that every part of his book, containing information of any value, is pirated from some standard practical work, and that his own composition consists of fabricated cases of cures, of empirical puffing, and of abuse of his rivals."

The following is *potassa fusa* for some of our fashionables.

"Between confining a medical man's practice to one disease and quackery, there is such a close connection, that I cannot dismiss this subject without making some allusion to it. Of late years, many well-educated medical practitioners, and watering-place doctors, have, in different parts of the kingdom, commenced the general practice of physic upon empirical principles. Divesting themselves of honour, truth, and honesty, their object is to extract from the pockets of their patients the greatest possible quantity of money, in the shortest time possible. For this purpose, they resort to every species of deceit, trickery, and boasting. They congratulate the patient who consult them, upon his fortunate escape from the ignorant treatment of the last person under whose care he has been; and assure him that if he had delayed his application a day or two longer, his life could not have been saved. They endeavour to acquire, secretly, a knowledge of the disease with which the patient about to consult them is affected, and then pretend, intuitively to have discovered all the patient's ailments from his countenance, and in this manner secure his confidence. In one case, a celebrated spa-doctor told his patient, that on first entering the room, he discovered that the disease respecting which he was about to be consulted was a fetid discharge. A professional man belonging to the church was quite delighted with the doctor's sagacity, and gave him great credit for being able to see a smell."

In the 4th chapter our author inquires whether dysentery in our lunatic asylums be a necessary evil, or the result of negligence; It appears that, out of 13 pauper lunatic asylums, only four reported to the House of Commons that dysentery had spread by infection. Dr. C. is convinced that this disease becomes contagious and diffused by the effluvia of the privies and other excrementitious or filthy matters. We doubt much whether dysentery is ever contagious *per se*, but only when it is an attendant on a low or typhoid fever, when the latter may prove infectious, and carry its intestinal character from person to person.

Some severe stricture are made on the election of medical officers to public

asylums by magistrates, who are incapable of discriminating talent, and who are, moreover, too often influenced by intrigue and nepotism. Dr. C. has hit Sir William Ellis rather hard, and we think it was neither wise nor charitable in Dr. C. to bring forward the humble origin, and the *res angusta domi* of Sir William in the beginning of his career. There is some truth, but much acerbity in the following passage.

"The physicians met with in ordinary life may be divided into three classes: the routine, or imperfectly educated; the scientific without, and the scientific with, good practical skill and tact. The routine physicians form a considerable body, and, of course, vary much in their qualifications. Some of them are mere delvers in Mammon's dirty mine. They get into practice not by their medical knowledge, but by the influence of friends and of personal address. Their life is one continued scene of deceit and chicanery, devoted to slandering their superiors and puffing themselves. There are also in this class many good men and useful practitioners, who supply, in a great measure, by close attention, the defect arising from imperfect education and imperfect discriminating powers. Others again, by superior genius and great application, rise from the ranks to the summit of their profession, without passing through the trammels of a regular education. Among the scientific physicians without practical skill or tact, might be enumerated some of the first philosophers of the age. They resemble the mathematician, who understands well not merely the first principles, but the most difficult parts of the science; yet, owing to a want of practical application of his knowledge, and to his ignorance of the use of instruments, he is practically inferior to the midshipman and the civil engineer. Some of our ablest teachers have been formed from this class of physicians. They talk learnedly and elegantly on every subject connected with medicine, but a complicated case of disease, placed under their care, seems to act like a torpedo upon their faculties, and to nonplus them completely. Diffidence, want of nervous energy, of self-possession, and of actual practice in early life, frequently occasion this defect. This class of men, weighing all others by their own standard, are apt to estimate lightly their professional brethren, and to represent them all to be as useless and inefficient as themselves."

This little volume contains numerous remarks which will be found very useful to magistrates, directors, subscribers, and non-medical visitors of lunatic asylums, and to them the book is chiefly addressed. We think it would have been just as well, if the acrimony of the satire had been a little diluted—and especially in the numerous censures which the Doctor has directed against Sir W. Ellis—censures which look like personal pique, though we believe that such does not exist in the Doctor's mind.

THE CYCLOPÆDIA OF ANATOMY AND PHYSIOLOGY. Edited by *Robert Todd*, M.D. F.R.S. &c. &c. Part XIV. Illustrated with numerous Engravings.

GREAT complaints have been made of the delay in the publication of the parts of this Cyclopædia. The present one has been long postponed. The fault, we have every reason to believe, does not lie on the shoulders of the able Editor. Whosoever it may be, it will be for the interest of the work to remedy it.

The contents of this part are:—

Gland (*concluded*), by Dr. R. Grainger, Esq.—Glosso-pharyngeal Nerve; Dr. John Reid.—Gluteal Region; A.T.S. Dodd, Esq.—Hæmatosine; D. G. O. Rees.—Hand, bones and joints; Dr. Todd.—Hand, Abnormal Condition; R. Adams, Esq.—Hand, Muscles and Regions; F. T. McDougall, Esq.—Hearing, Organ of; T. Wharton Jones, Esq.

The execution of all the articles is good. We would particularize that on Gland, by Mr. Grainger—on Hæmatosine, by Dr. Rees—on Abnormal Conditions of the Hand, by Mr. Adams—and on the Organ of Hearing, by Mr. Jones.

It is impossible to give an analysis of these articles. In another place we have alluded to that on Gland, by Mr. Grainger. We shall make an extract or two from the article, and quote the opinions of Mr. Adams.

Speaking of that troublesome accident, dislocation of the first phalanx of the thumb, on the back of the metacarpal bone, Mr. Adams objects to the usually received opinions of the nature of the difficulty in effecting the reduction. He says :

"The learned author of the *First Lines of Surgery* has expressed his opinion that the return of the dislocated phalanx to its place is opposed by a combination of causes, viz.—the cuneiform shape of the bone and the resistance of the lateral ligaments, as suggested by Hey, the force of the muscles, and, lastly, he adds, because the surface for the application of the extending means is very limited. To most of these observations we have reason to object, particularly to the last, because we believe that all the force which it is justifiable to use may be easily applied; and we should ever keep in mind a case given on the authority of Mr. Hey, who informs, us that the celebrated Mr. Bloomfield reported to his class of pupils at St. George's Hospital, London, that he knew a surgeon increase the force of extension to such a degree in attempting reduction of this dislocation, that he tore off the thumb of the second joint.

The idea that a transverse section of the head of the metacarpal bone presents an outline of a cuneiform figure with the narrowest part of the wedge towards the palm, or forwards, was first advanced by Mr. Hey, and has subsequently been adopted with too little reflection by many writers: for our part we do not think that the head of the metacarpal bone does present this form assigned to it by Hey. But even although it be conceded that it has occasionally a form which would answer to the description given by Mr. Hey, and that its cuneiform figure would facilitate its gliding between the lateral ligaments and forbid its return, surely such an obstacle to the return of the bone would suppose a state of integrity of both lateral ligaments. In our experiments on the dead subject, we found one of these lateral ligaments invariably torn whenever a complete luxation was effected; but with the theory of Hey, which seems to us quite unsupported by the normal anatomy of the bone or the anatomy of the accident, how can we reconcile the observation, that when the first phalanx of the thumb is dislocated to the palmar instead of the dorsal aspect of the metacarpal bone, equal difficulty of reducing the luxation has been experienced by very eminent surgeons! For example, Velpeau says, 'we have seen but once the first phalanx of the thumb pass in front of the first metacarpal bone. The subject of this accident was a woman aged forty-five years; the bone had been out for three days, there was no inflammation.' I thought, says Velpeau, 'that it was owing to some want of skill in myself that I could not succeed in reducing the luxation; but M. Professor Bougon also made fruitless efforts to effect it; finally, M. Roux, with his well-known address and ingenuity, was not more successful, and the bone remained ever afterwards unreduced.'*

Upon the whole it would appear to us, that in the case of the dislocation of the first phalanx of the thumb on the dorsum of the metacarpal bone, the cause of the difficulty we experience in reducing it will not be found either in the mechanical resistance of the lateral ligaments or in the interposition of muscular or fibrous part between the extremities of the dislocated bones, but that whether the luxation be the common one backwards or the more unusual one forwards, the *vital contraction* of numerous muscles on a small and yielding bone (whose ligaments have been lacerated) will be the principal opposing force we have to contend with."

It is difficult, however, to suppose that mere muscular contractions can oppose so stout a resistance. We doubt the hypothesis of "*vital muscular contraction*."

* "Velpeau, *Traité d'Anatomie des Regions*, tom. i. p. 475, edit. 1825.

A TREATISE ON THE NATURE AND TREATMENT OF HOOPING-COUGH, AND ITS COMPLICATIONS, ILLUSTRATED BY CASES : WITH AN APPENDIX, CONTAINING HINTS ON THE MANAGEMENT OF CHILDREN, WITH A VIEW TO RENDER THEM LESS SUSCEPTIBLE OF THIS, AND OTHER DISEASES OF CHILD-HOOD, IN AN AGGRAVATED FORM. By *Geo. Hamilton Roe*, M. D. Octavo, pp. 258. Churchill, August, 1838.

It is now some twenty years or more ago, that our author's attention was drawn to the benefits resulting from prussic acid in whooping-cough. Dr. Roe does not appear to have been then aware of Dr. Granville's work, in which the efficacy of the remedy was adverted to. In his preface, now, he attributes to Dr. G. the merit of having first introduced the remedy into this country for the disease in question. It seems that Dr. Roe was long deterred from recommending prussic acid, on account of the prejudices entertained against it; but he now comes forward with confidence to proclaim its powers. There are very few medical practitioners, indeed who are not in the habit, of late years, of prescribing this medicine daily in many affections of chest and stomach, but in whooping-cough particularly. It would seem that the accidental circumstance of finding prussic acid so useful in pertussis, gradually led Dr. Roe to an especial investigation of the malady itself—and the result is the present volume.

Besides the main part of the work dedicated to whooping-cough, there is a large appendix on the management of children generally. The first part is divided into twelve chapters. We shall glance rapidly at some of these chapters. The first is introductory, and may be passed. The second treats of the nature and progress of whooping-cough. This disease seldom proves fatal per se, but by inducing other affections. The most common is inflammation of the respiratory apparatus. When this is detected by the sagacity of the practitioner, or by auscultation, no time is to be lost, or the patient will sink. A convulsion-fit sometimes comes on even in mild cases, leaving a state of insensibility, interrupted by a succession of fits till one of them terminates life.

Chap. III. details the morbid appearance in whooping-cough. Eleven cases are recorded from various authors—chiefly Watt, Alderson, Laennec—and one or two from the author's own practice, shewing inflammation and its consequences in the different structures of the respiratory apparatus.

CHAP. IV.—RATIO SYMPTOMATUM.

As a person very rarely dies of simple whooping-cough, the actual state of the air-passages can only be ascertained by accidental and sudden death from some other disease. Our author has not had such an opportunity. The stethoscope, in the intervals of the paroxysms, merely discloses occasionally a slight râle with the respiratory murmur. The cause of the cough, therefore, must be sought in some functional, not structural affection. Voila the explanation.

"Any one who will make the experiment will perceive, that by the exercise of the voluntary muscles of respiration he cannot either continue coughing loudly for so long a time, or empty the lungs so completely of air, as a person does in a paroxysm of whooping-cough; it must therefore be inferred that the involuntary muscles—namely, those pointed out by Reisseissen as connecting the extremities of the cartilaginous rings of the trachea and bronchiæ—powerfully assist in accomplishing both these objects. They seem by acting spasmodically to expel the air from the lungs, and to excite by sympathy the voluntary muscles of respiration;—the combined action of both sets of muscles appears to produce this peculiar cough."

The cause why the paroxysms are worse after food, is the distention resulting from imperfect digestion. The whoop is occasioned by the violent rush, or rather suction of air through a spasmodically contracted rima glottidis.

The intermission of the paroxysm does not admit of an easy explanation. When the disease goes on unchecked, the chest begins to sound dull, and "either feeble respiratory murmur, or short, and loud respiratory sounds, mixed with large crepitations, are perceived—warning us that the inflammation is communicated to the substance of the lungs, with effusion into the parenchymatous structure, &c." The difficulty of breathing, sense of suffocation, lividity of countenance, blueness of lips, are easily explained in this state of things.

CHAP. V.—CAUSE AND SEAT.

It is hardly necessary to say that we know as much of the primary cause of hooping-cough, as of those of measles, cholera, or scarlatina—which is just nothing at all. The spasm, the inflammation, or both, are only the primary—perhaps secondary *effects* of hooping-cough. They have both been advocated as the *causes*. Watt, Alcock, and others have maintained the first hypothesis—Leroy and Webster maintained that the cause of pertussis was in the brain. Inflammation of the pneumo-gastric nerves was accused by Breschet and Herman Kilean; but Dr. Albers, of Bonn, examined the bodies of 47 persons who died of hooping-cough, and in 43 the nervi vagi presented no traces of inflammation—in four, who were scrofulous subjects, the nervus vagus of one side (that on which the body lay) was found reddened. Laennec, Albers, Pinel, and others, look upon spasm as the proximate cause of pertussis. Our author came to the same conclusion as a French writer (Mons. Blache) had done previously, unknown to Dr. Roe.

"The conviction he has expressed as to the nature and seat of the disease (and wherein he coincides substantially with Albers of Brême, Laennec, and Pinel,) is, that hooping-cough must be considered "*as a nervous affection, having its seat both in the mucous membrane of the bronchiæ and in the pneumo-gastric nerves: an affection very frequently complicated with bronchitis and with pneumonia, but which may exist without them; and, like all other diseases of the same kind, having no anatomical marks of any importance.*"

CHAP. VI. is a short one, and the contagious character of pertussis. Dr. R. comes to the following conclusion:

"We may therefore consider that hooping-cough is an epidemic disease, but that it may be also communicated from diseased to healthy individuals by contagion."

CHAP. VII.—TREATMENT.

Our author very properly remarks, that no specific treatment can be laid down for this disease, seeing the complications with which it may be mixed up. The principal medicines in use hitherto were, opium, lettuce, emetics, acetate of lead, hemlock, arsenic, belladonna sulphuret of potash, prussic acid, tar vapour—counter-irritation. Upon each of these our author makes remarks—judicious enough—but not necessary to be repeated here. In a chapter on simple pertussis we meet the following passage, which we shall extract.

"I do not wish it to be supposed by my professional brethren that I am recommending hydro-cyanic acid as a cure for every case of hooping cough, well knowing how ready we all are to believe that what is said to cure everything, in reality cures nothing. Cases of this complaint do occur in which hydro-cyanic acid seems to possess little power over it; for such some remedy is still wanting.

But I may truly say the cases are so very numerous in which this medicine succeeds,—especially if it be given at the commencement of the disease,—and so very few in which it fails of speedily producing a beneficial effect upon the cough, that my first impression on hearing that a child who has been using it is not better is, that the acid cannot have been good. Without recommending any shop in preference to another, I may say, that the acid obtained from certain chemists seldom fails of curing whooping-cough, whilst that obtained from others makes little or no impression on the complaint. Hydro-cyanic acid of Scheele's strength will, if exhibited as soon as the whoop is heard, effect a cure in almost every case of simple whooping-cough. If the disease has been going on for many weeks, its effects are not so immediately felt, but nevertheless it will cure in most instances."

Numerous cases are detailed in this chapter, and also in the next, where pertussis is complicated with bronchitis and other diseases, after which follows a chapter on the general treatment of whooping-cough in regard to air, dress, diet, ablutions, &c. containing judicious instructions.

The Appendix consists of about 50 pages "On the General Management of Children." The maxims laid down are good, though, as our author himself candidly admits—"these rules are by no means new." P. 237. But though true and not new, they are seldom put in force. The nurse, in fact, has more weight in the nursery than the doctor, and his injunctions are as commonly disobeyed as his "stuff" is thrown out of the window, when his back is turned. Although this part of the work is adapted almost exclusively to the study of mothers and nurses, there is much in it which the young medical practitioner would do well to learn. The whole work is creditably executed—the language is good—and the book is entirely free from the least attempt at mystery—much less Charlatannerie.

ANATOMICAL TABLES; CONTAINING CONCISE DESCRIPTIONS OF THE MUSCLES, LIGAMENTS, FASCIÆ, BLOOD-VESSELS, AND NERVES. INTENDED FOR THE USE OF STUDENTS. By *Thomas Nunneley*, Lecturer on Anatomy and Physiology in the Leeds School of Medicine; Honorary Secretary to the Leeds Philosophical and Literary Society, &c. &c. Duodecimo, pp. 240. Higley, 1838.

The objects of the author of this useful little work are best stated by himself.

"In the construction of this work one great object has been, that while nothing important on those subjects of which it professes to treat should be omitted; yet, that its size should be such that it may easily be carried about. Occasions frequently arise that a small work would be referred to, when a large work could or would not be consulted; and there are many spare minutes (as between lectures, &c.) which might often be profitably employed by the practice of carrying such books as may readily be consulted, especially such as contain facts, where no lengthened train of reasoning is required, which must necessarily be destroyed by broken and interrupted applications. It is for this reason that the Viscera are not introduced; any description of them, to be useful, must be of considerable length, as their importance depends, not so much upon mere outward forms, as upon their minute texture and relative connexions. The Bones are not described, partly because there already exists more than one manual on them, and it would be impossible to have given a description of them, which should be good for any thing, without considerably extending the size of the book. The manner in which the attachment of muscles to individual bones is given, will, it is presumed, be sufficient to call up a tolerably perfect recollection of them; but, above all, a single glance at the bones themselves, (which every

student ought to possess or have access to,) will do more than a lengthened description could. The muscles are presented in more than one tabular form; to understand the muscular system well is considerably more difficult than any other part of anatomy; it, however, repays any application, not only on account of its own importance, but also, because this understood, the course and distribution of the blood-vessels and nerves are most easily comprehended."

We may take the following enumeration of the vessels attached to the clavicle, as a specimen of the author's mode of handling his subject. It is taken at random, and will shew what *kind* of work we have before us.

"The Clavicle has six muscles attached to it; of which four arise, two are inserted.

Arise the
Sterno Cleido Mastoideus
Sterno Hyoideus,
Pectoralis Major,
Deltoides :

Inserted the
Trapezius,
Subclavius.

The Pectoralis Major is attached to the sternal part of the anterior border of the Clavicle; the Deltoides to the acromial portion of the same border; the Sterno-cleido-mastoideus to the sternal part of the posterior border; the Trapezius to the acromial end of the same border; the Sterno-hyoideus to the sternal extremity; and the Subclavius to the under surface of the clavicle."

Our young friends will find this a very useful little book to carry with them. It will serve as a *refresher*.

CHEMISTRY OF ORGANIC BODIES. VEGETABLES. By *Thomas Thomson*, M.D., &c. &c. London, J. B. Baillière, pp. 1,076.

WE hail the appearance of this work with sentiments of unqualified satisfaction. A good account of the chemistry of organic bodies is quite a desideratum in this country—a desideratum which the present and the coming volume seem most likely to supply.

Dr. Thomson informs us, in his preface, that—

"The object of the present volume is, to lay before the British chemical public a pretty full view of the present state of the chemistry of Vegetable Bodies. This branch of the science has made so much progress of late years, that a very wide and inviting field has been laid open. Several hundred new substances have either been discovered, or their characters have been determined with such precision, and their composition investigated with such accuracy, as to give a pretty accurate idea of their constitution, and of their connexion with each other. These ultimate analyses, with a very few exceptions, have been all made upon the continent, and chiefly in Germany and France. British chemists have scarcely entered upon the investigations. Dr. Prout, indeed in 1827, published an analyses of sugar, starch, lignin, and some of the vegetable acids. His results were accurate, but his apparatus was of too complex a nature to warrant trustworthy results in the hands of ordinary experimenters. Within these very few years, Mr. Kane of Dublin, and Dr. Gregory, who had been trained to vegetable analyses in Leibig's laboratory in Giessen, have begun the investigation of vegetable bodies. Already various important facts have been ascertained by them; and, if they continue their investigations, there can be no doubt, from their well known sagacity and dexterity, that many important discoveries in this interesting branch of chemistry will result from them.

The present volume, by exhibiting a pretty complete view of the present state of vegetable chemistry; and, by presenting together the most important facts that have been ascertained, will, I trust, be of some use to those British chemists, who may wish to enter upon this very interesting field of investigation."

Dr. Thomson has deferred until the following volume, on the chemistry of animal substances, a minute detail of the method for obtaining an accurate analysis of vegetable substances. He has been induced to do so, on account of the great size of the present volume; combined with the circumstance that very minute details of that method have been given by Liebig and Dumas, the two chemists to whom we are indebted for the greatest number, and the most accurate vegetable analyses which we possess.

Dr. Thomson has divided his work into four parts, of which the first treats of vegetable principles: the second, of the parts of plants; the third, of vegetation; and the fourth of the decomposition of plants.

The first part comprises 4 classes; 1st. **VEGETABLE ACIDS**, subdivided into volatile acids, fixed and oily acids, acids containing azote, compound acids, and cyanogen and its compounds. 2nd. **VEGETABLE ALKALIES**, consisting of alkalies analyzed, and alkalies imperfectly examined. 3rd. **INTERMEDIATE BODIES**, divided into alcohol and its compounds, ethers, pyroxylic spirit and its compounds, colouring matters, volatile, oils, &c. 4th. **NEUTRAL VEGETABLE PRINCIPLES**, comprising amides, benzoyl and its compounds, spiroil, sugars, gums, caoutchouc, &c. The second Part treats of the sap and gases of plants, barks, roots, bulbs, &c. The third, of the structure, temperature and food of plants, of the motion of the sap, the function of the leaves, and of the decay of plants. The fourth part is divided into venous, panary and acetous fermentation, and putrefaction.

It would, of course, be utterly impossible in any limited space, to give a proper idea of this valuable book, we shall therefore content ourselves with recommending the work to the attention of the public, in the strongest and most energetic manner.

NATURAL HISTORY.

A HISTORY OF BRITISH BIRDS. By *William Yarrell*, F.L.S., V.P.Z.S. Illustrated by a wood-cut of each species, and numerous vignettes. Parts VII. and VIII.

THIS pleasant and instructive work goes on spiritedly. When complete it will form an excellent addition to a family as well as professional library. It richly deserves encouragement.

A GENERAL OUTLINE OF THE ANIMAL KINGDOM. By *Thomas Rymer Jones*, F.Z.S., Professor of Comparative Anatomy in King's College, London, Part I. Price 2s. 6d. Van Voorst, September, 1838.

WE are very glad to see this work. It will make an excellent accompaniment to the preceding and to several others of the same cast. Of Mr. Jones's capacity for his task there is no question, and we are sure that this "General Outline" should be in the hands of our medical brethren.

SPIRIT OF THE BRITISH AND AMERICAN PERIODICALS.

DR. GRAY'S UTERO-ABDOMINAL SUPPORTER—AN IMPROVEMENT ON THAT OF DR. HULL.

WE have received the Transactions of the Medical Society of New York, Vol. 4, Part 1., in which is a long paper by Dr. Gray, on Prolapsus Uteri. The observations are so close and connected that we are unable to give any regular analysis of the paper. This is of less consequence, as any of our medical brethren may examine the apparatus at Dr. Gray's apartments, 279, Regent Street. We insert, however, the following stringent remarks on the old and new treatment of prolapsus uteri.

"The indications of cure growing out of this view of the nature of prolapsus, are:

1. To diminish the preternatural capacity of the hypogastric, and ano-pe-rineal regions; and,

II. To restore tone to the muscular portions of those parts.

The first of these indications is answered by the ingenious apparatus of Dr. Hull, entitled by him, *Utero Abdominal Supporter*, which presses against the two weakened and distended points of the abdomen, with any required force, and at the same time preserves by it elasticity, the faculty of advancing and receding with the respiratory action of these parts. The second indication is also fulfilled to some extent by this instrument, by means of the well known sanatory influences of equal and uniform compression upon parts distended and weakened by forces from within. At any rate, it affords the weakened muscular and aponeurotic apparatus it covers, rest and opportunity to recover their lost tone; and object of so much importance in the estimation of Prof. Burns, Dr. Davis, and many other eminent writers on the subject, as to induce them to insist upon nearly absolute rest in a recumbent posture for a very long period of time.

I have had frequent opportunities during the past four or five years, of

seeing the results of the late Dr. Hull's instrument, and they have been such as fully to justify the views I have set forth, and to convince me that the old and ever inefficient expedients of the recumbent posture, styptic injections, pessaries, &c., and the erroneous views upon which they are founded, will be exploded in a very short time.

The objections to the old practice become more apparent and palpable, when considered in connexion with the views I have advanced.

I. *The Horizontal Posture*.—This is earnestly insisted upon by Prof. Burns, Sir Charles Clarke, M. Gardien, and Dr. Davis of London, the most eminent recent writers on obstetric medicine. It is founded on the hypothesis of the ligaments, and cannot, it appears to me, prove serviceable in any great number of cases. It is possible that, in some instances, presenting great vigor of muscle, and fullness of the vascular system, the loss of appetite and general relaxation necessarily resulting from a rigid adherence to this irksome position, for two or three months, the shortest time named by Dr. Davis, might, by greatly reducing the upper forces of the abdomen, palliate the prolapsus to a considerable extent. But though the recumbent posture immediately relieves the patient from the dragging and bearing down which are especially distressing in the early appearance of the displacement, it is not to be forgotten, that a large majority of those subject to this malady, are, by no means, in a condition to sustain, without serious consequences, the prostration and general debility caused by persisting in it for any length of time. Indeed, the authors cited, one and all, condemn this treatment, in principle, by strongly insisting upon the use of means for invigorating the system, a loss of tone in which they consider the remote cause of the disease. Dr. Davis affirms that the horizontal posture, 'rigidly observed for two or three months, might possibly suffice to insure a restoration of the

suspensory ligaments [which are they?] of the uterus to their former tone and strength.' He offers no experience whatever in support of the prescription, nor does either of the other writers on the subject. It appears to be founded solely upon the prevalent but irrational supposition, that the peritoneal folds and round ligaments suspend the uterus, in the healthy state, and that relaxation in them is the proximate cause of prolapsus; and this pursuit of a hidden cause, which transcends the possible limits of testimony, in this, as in very many other cases in medicine, seems to take off the attention from the plainest possible mandates of experience.

Professor Thompson asserts that this practice 'tends not only to impair the general health, but also to aggravate the disease, by increasing the relaxation of the natural supports of the womb; daily experience has established the validity of this opinion.' Mad. Boivin does not recommend its adoption.

II. *Styptic Injections into the Vagina.*—This practice, so frequently followed by pernicious consequences in the treatment of leucorrhœal discharges, is also recommended by the eminent authors above quoted.

It is difficult to conceive how the injection of astringents into the vagina can restore tone to the round ligaments, or to the peritoneal folds, or corroborate their convalescence: yet such are the faculties ascribed to them. But it is easy to imagine that they may irritate the mucous membrane of the vagina, and suddenly dry up habitual discharges from it, to the very great detriment of the general health; and also excite serious indurations, and even ulcerations of the os uteri. Much indubitable testimony exists in the records of medicine to support the latter supposition, but so far as I am aware, none whatever in favor of the former. Is it not probable that both these expedients, the horizontal posture and the use of styptics, have been restored to, successively, and after other means, because practitioners have been so constantly baffled in the treatment of the malady in question?

III. *Pessaries.*—After permitting the

descent of the intestines upon the viscera to take place, without pathological recognition, it is not to be wondered at that the appearance of the uterus at the vulva should be regarded by the earliest surgeons as the result of relaxation of its upper connecting points; nor that its farther descent should be opposed by the introduction of a prop, or block, into the vagina, which, upon having its long diameter arranged across that passage, should be incapable of expulsion through its outlet, thus presenting an effectual barrier against the exit of the womb from that part. But it is matter of surprize, as before stated, that the improvements in anatomical knowledge which the last century has developed should not have produced a better mode of curing prolapsus than was devised in the first and rudest stage of surgical invention.

The objections to the application of pessaries are:

1. They are not surgically indicated; they consequently never act as remedies, but merely palliatives in all cases, and like all other palliatives, they tend to perpetuate the necessity of their application during the life of the patient.

2. They distend the flooring of the pelvis and increase the capacity of the ano-perineal region, thus directly aggravating one essential and important element of the disease.

3. They provoke mucous discharges from the vagina, where they do not exist, and change the character and quantity of existing ones, much for the worse.

4. They occasionally produce serious inflammations. Velpeau relates a fatal peritonitis, produced by a pessary, introduced by himself—*Surg. Anat.* ii. p. 283.) They cannot be worn by many patients on account of the local and constitutional irritation they produce.

5. They are likely to hasten the development of latent scirrhus affections of the os uteri, which are sometimes complicated with prolapsus, and perhaps more frequently than has been suspected. (S. Cooper quotes cases from Ruysch & Langenbeck, in his *Surgical Dictionary*, art. Prolap. Uteri.)

This is a very strong objection to pessaries.

6. They interrupt sexual intercourse.

7. Numerous instances are related in surgical works, of pessaries becoming so encrusted and firmly imbedded in the vagina, as to require serious operation to extract them.

8. Their proper application, the choice of their form and dimensions, so as to adapt them well to each case, is a point of much difficulty with the most expert surgeon. The majority of practitioners must find extreme difficulty in these respects.

The unsatisfactory results of ordinary methods, recently induced a practitioner of high character to undertake a radical cure, by obliterating the cavity of the vagina! Mr. Liston brought the sides of the vagina together by several ligatures. It is scarcely necessary to say, that this cruel experiment failed entirely. Professor Thompson sanctioned the attempt.

Dr. Marshall Hall has lately removed a strip of the mucous membrane, an inch and a half wide, from the whole length of the vagina, for the purpose of contracting the diameter of that canal so much as to prevent the descent of the womb through it. I mention these cases, not by any means as precedents worthy of imitation, but as showing conclusively the inefficiency of the prevailing practice in this disease, and the vagueness of the views upon which such practice is founded.

The method of Dr. Hull is liable to none of the objections enumerated, nor so far as I am able to judge is it objectionable in any regard. A large number of my professional colleagues in New-York have applied the new apparatus, and all, I believe, with gratifying success.

There is an important consideration in favour of the external mechanical support worthy of notice; this is its salutary influence in the flexions and lateral displacements in the fundus uteri not accompanied by prolapsus. It is probable, as before stated, that retroversion, anteversion, and the lateral dislocation of Meckel, are caused by a relaxation of the hypogastrium, permitting the small intestines to sink be-

low the brim of the pelvis. The circular portion of Dr. Hull's Supporter would in this case be indicated, and doubtless prove successful. Farther experience will determine how far abortions from this condition may thus be averted. It is probable also that many distressing gastric affections, arising from dislodgement of the intestines, and ascribed to other causes, and particularly to morbid sympathy with the uterus, may be effectually removed by this apparatus. The same remark may be made in reference to affections of the urinary bladder. I have seen two cases of partial incontinence of urine, not connected with prolapsus, cured by this instrument. It was applied upon the supposition that the intestines compressed the bladder and diminished its capacity. The distended condition of the hypogastrium and hollowing of the upper part of the belly before spoken of, existed in both instances, and gave rise to the conjecture as to a mechanical cause."

We understand that Drs. Conquest, Blundell, and others have given their sanction to the utero-abdominal bandage; but can give no opinion of our own.

CASE OF DIABETES MELLITUS IN A
BOY OF NINE YEARS OF AGE, WITH
THE APPEARANCES ON DISSECTION.
By JAMES JOHNSON, M. D.

A fine boy was severely affected, a few years ago, with what is termed bilious remittent fever—or more properly a gastro-intestinal fever, which nearly destroyed his life. After this I lost sight of him for two or three years. I was called to him on the 15th June 1838, by Mr. Clifton, who was in attendance upon him for diabetes. This disease had been detected only a few weeks previously, and the boy, from being a fine active youth, was getting thin and emaciated. The thirst was great, and he passed eight or ten pints of water, very sweet, and of high specific gravity. No tangible or appreciable disease could be detected in any part of the body. The tongue was white, and the pulse too quick.

was placed on animal food diet,—Dover's powder with hyd. cum creta—and the warm bath. Under this plan he seemed to stem the effects of the disease; but little or no alteration took place in the diabetes. He was cupped over the region of the kidneys. The general health certainly did not deteriorate. Dr. Bright saw him in consultation with myself and Mr. Clifton, and recommended some slight additions to the means abovementioned. The mother of this unfortunate youth was persuaded by some friend, at this time to try a remedy which was said to have proved effectual in a desperate case of diabetes—and this was, the exhibition of the patient's own urine for drink. Unknown to the medical attendants, the beverage was given to the boy, and, strange enough, he relished it exceedingly, being informed that it was a diet-drink sent into town from the country! For at least ten days he drank the whole of his own urine; but still, the quantity excreted was greater than the quantity of urine drunk, because there were other fluids also taken besides the urine. The mother, who was rather more credulous than judicious, fancied the boy improved in health during this time; but such was not the case. She confessed the truth, and the urinous drink was discontinued. It is worthy of remark, however, that the boy appears to have discovered the nature of the diet-drink; for he was, more than once afterwards, found by the nurse drinking his own urine.

About this time the boy's mother was strongly urged to consult an eminent homœopathist (whose name I shall not mention) and as he promised to cure the patient, a promise which the allopathists would not make, he was employed. As I did not interfere in the new treatment, I only occasionally called to see the procedure, and always met the disciple of Hahneman at my visits. He was giving the boy some millionth doses of belladonna when I first met him. I asked him if he was proceeding on the established canon of homœopathy—"similia similibus curantur"—and he replied in the affirmative. I asked him what medicine would produce diabetes mellitus in a

healthy subject? He hesitated for some time, and then affirmed most positively that belladonna would cause diabetes!! After this I had no more arguments on the subject. It is hardly necessary to say that the boy gradually, but steadily wasted, and died on the 28th of July. The body was examined,* and the following notes were made. Body extremely emaciated. The thoracic viscera sound. The intestines were bound together at various points, making it difficult to trace their natural course. Their mucous membrane was highly vascular and discoloured for a considerable extent—in some places being of greyish—in others of a brown hue. The mesenteric glands were enlarged and vascular. The stomach, liver, and spleen were healthy. The gall-bladder was empty. The kidneys were enlarged, and very turgid with blood, more especially the left kidney, around which the cellular membrane was rather loaded with a sort of gelatinous substance. The coats of the bladder were somewhat thickened.

It is hardly necessary to remark that homœopathy was not likely to do any good in this case; but the confident promises of success were not the less on that account. This instance only adds one to many others that have come under my notice, to convince me that homœopathy is a humbug.

We have no sufficient data on which to ground the assumption that diabetes mellitus is a disease dependent on disordered function or structure of any particular organ. I have found the lungs more frequently diseased than any other viscus in this grave malady. In the present case, however, the kidneys were the parts most affected, since the mucous membrane of the bowels became inflamed in the course of the diabetes, and presented the usual phenomena of that affection. It is certainly not a little curious that this patient should have drank his own urine for eight or ten days with avidity—and, for the first few days, with some slight apparent advantage.

* The *post mortem* was made in the country, and I have mislaid the name of the medical gentleman.

CLIMATE OF TORQUAY.

Dr. De Barry, of Torquay, has been at some pains to collect and construct thermometrical tables, shewing the

comparative climates of that place, and several other localities, during the months of January and February of the present year. The following summary Table will be sufficient for our purpose

MEAN TEMPERATURE.

		JANUARY.			
		Maximum.	Minimum.	9, a. m.	9, p. m.
Torquay	.. .. .	41.2	32	35.8	34.6
Exeter	.. .. .	36.7	27.7	31	30.7
Royal Society, Somerset House		31	26.6	29.5	..
Bristol	.. .. .	34.5	25.4	..	..
Edmonton	.. .. .	32.3	18.5	..	..
Sheffield	.. .. .	51.1	24.5	26.6	..
Cheltenham	.. .. .	..	..	..	..
Farnham	.. .. .	..	24.6	..	..
Torquay from Jan. 8th to 31st inclusive		58	30.4	..	..
Cheltenham ditto ditto	..	31	23.8	..	..
Torquay from Jan. 8 to Feb 4 inclusive		..	..	33.6	33.1
Hyde Park ditto ditto	..	..	..	24.5	25.3
FEBRUARY.					
Torquay	.. .. .	42.4	35.2	38.6	38.8
Exeter	.. .. .	39.7	31.6	34.8	35.6
		..	..	33.1	..
Bristol	.. .. .	39.5	29.6	..	..
Edmonton	.. .. .	37.5	24.6	..	..
Sheffield	.. .. .	32.2	24	27.7	..
Cheltenham	.. .. .	36.2	29.6	..	..

NITRATE OF SILVER IN CHRONIC DISEASES.

Dr. O'Bryen has published a valuable paper in our Dublin contemporary on this subject. Professor Lallemand, of Montpellier, has been very successful in chronic cystitis, by touching the internal surface of the bladder with solid nitrate of silver. The following is the mode of application :—

Monsieur Lallemand uses an instrument of the following description, indeed he himself chose this one for me. It consists of a large catheter (of pure silver, as, if there is any alloy, the caustic acts upon it) open at both ends, having two sorts of stilet, according to the part you wish to cauterize ; at the extremity of each stilet is a small ex-

cavation, containing the caustic, which is first pulverized, and then placed in the excavation over a spirit lamp, which fuses and moulds it to the cavity.

When the instrument is prepared, introduce into the bladder an ordinary catheter, in order to empty it completely. This precaution is strictly necessary, for the urine would dissolve the caustic, and prevent its directly affecting the mucous membrane: when this has been withdrawn, the instrument bearing the caustic is to be introduced, (closed,) and the moment it has entered the bladder, you are to push the stilet, and rapidly turn the *porte caustique* from side to side two or three times, and then pull the stilet into the instrument, and withdraw it; our object should be to touch the surface in as

many points as possible. While the instrument is within, the bladder contracts and grasps it, the kidneys secrete a small quantity of urine, as the lachrymal gland secretes tears when the conjunctiva is cauterized; but this small quantity of liquid, far from being hurtful, is on the contrary favourable, as it acts as a vehicle to the portion it does not decompose, and conveys it equally over the surface of the membrane. The patients feel, at that moment, a sharp pain at the neck of the bladder and in the rectum, described by them as not unlike a pinch, but much more supportable than the continued dull pain of chronic, catarrh; there is now an irresistible desire to pass water, and as the bladder is nearly empty, very little passes, and this causes a burning along the urethra, and is accompanied by some drops of blood. This desire is renewed every moment, causing violent but useless efforts. These gradually decrease, and on the second and third day there is no longer any pain on making water, and a few small grey eschars, like burned paper, come away with the urine. This occurs in a large number of patients, but in some more susceptible, the process does not proceed so simply, particularly if you have used the *porte caustique* too long. In this case retention of urine follows, which lasts from three to thirty-six hours; even here we must not be in too great a hurry to use the catheter, as a warm bath; a few narcotic lavements, emollient drinks, some tartrate of soda, with infus. sennæ, and sometimes a few leeches, will cause the spasms to yield; if not, some belladonna to the meatus may be tried, always taking care to use antiphlogistics with moderation in the beginning, as inflammation is necessary to the cure. In a majority of cases one cauterization is sufficient to procure a cure; when it happens otherwise, a second and even a third application may be necessary, but Monsieur L. states that he never saw a case requiring a fourth.*

* Dublin Journal, Sept. 1838.

ON THE STATE OF THE PUPIL IN TYPHUS, AND THE USE OF BELLADONNA IN CASES IN WHICH THE PUPIL IS CONTRACTED. By Robert J. Graves, M. D.*

Dr. Graves remarks that, in sleep, the pupil is contracted—that, in some diseased conditions of the brain the pupil is contracted, while, in the other, it is dilated, without our knowing the precise circumstances on which the one state or the other depends—that:—

“In fever with cerebral disease, one of the most alarming symptoms is marked contraction of the pupil, and were I called to a case in which every other symptom was favourable, but great contraction of the pupil present, I would say that it was a case of extreme danger. A tendency to even moderate contraction of the pupil is a very dangerous symptom in typhus, but a pupil extremely and permanently contracted, or as it has been called a *pin-hole pupil*, is, or used to be, a fatal sign. Although this symptom is so obvious, so easily ascertained, and unhappily so common, for I have within the last few years witnessed it in a great number of fatal cases, yet, strange to say, it has not attracted the attention it deserves, among writers on typhus.”

That opium has the effect of occasioning contracted pupil, while stramonium and belladonna occasion dilated pupils; that opium scarcely ever fails to be injurious in cases of fever, with contracted pupil, even though the patient be restless, and greatly in want of sleep:—

“I have often seen it tried, and I think scarcely ever without more or less injury to the patient. When opium is administered to a patient in the advanced stage of fever, with symptoms of cerebral derangement, and tendency to contraction of the pupil, you will find that the pupil which has been moderately contracted to-day, will be greatly contracted to-morrow, and that the patient will soon sink into an irrecoverable state of coma. This contracted state of the pupil may exist in its ex-

* Dublin Journal, July 18, 1838.

treme and most marked form in typhus fever, without being necessarily accompanied by head-ach and delirium; the patients are restless, sleepless, and in a state of remarkable nervous excitement; but they answer questions not unfrequently in a tolerably clear and rational manner, and many of them distinctly affirm that they have no pain in the head. These circumstances may deceive the unwary, but the experienced practitioner, who has witnessed many such cases, will feel that a fatal termination is threatened. Under these circumstances, opium in every shape is injurious, and even tartar emetic fails in controlling or diminishing the pernicious effects of opium. This is somewhat curious, as the combination of tartar emetic and opium seldom fails in relieving cases similar in all respects, except the symptom of contraction of the pupil."

"That, it may appear somewhat extraordinary to think of prescribing for a single symptom, and giving belladonna in a case of fever with contraction of the pupil, merely because it produces dilatation of the pupil; but as was before observed, it is not unreasonable to suppose that the state of the brain which accompanies dilatation of the pupil is different from that which accompanies contraction, and if belladonna has an effect in producing that cerebral state which is attended with dilatation, it is not going too far to infer, that its administration may do much towards counteracting the opposite condition: neither is it unphysiological to conclude, that if a remedy be capable of counteracting or preventing *one very remarkable effect* of a certain morbid state of the brain, it may also counteract *other symptoms* connected with the same condition."

The result of the reflections and of the experiments of Dr. Graves is, that belladonna is of service in cases of cerebral excitement in fever, accompanied by contraction of the pupil. He thinks it may be useful combined with all the known preparations of opium.

"This combination evidently saved the life of a gentleman in Parliament-street, whom I attended along with Mr.

Sibthorp and Dr. Dwyer, and whose case was apparently hopeless. In the Meath Hospital, draughts consisting of black drop, belladonna, and tartar emetic, have been eminently serviceable; the extract of belladonna which I have used, is, properly speaking, an inspissated juice, and is so called in the last edition of the Dublin Pharmacopœia."

Dr. Graves relates the details of two cases in which belladonna appeared to be of service, and concludes by observing, that enough has been done to stimulate inquiry, and it will be granted by all, that there is no subject more deserving of the earnest attention of the physician than the treatment of cerebral affections in typhus fever. Where a tendency to contraction of the pupil accompanies this disease, the usual plan of blistering, leeching, cold lotions, &c., will prove insufficient. It may be of some use in the commencement, or in the middle stage of fever, but not towards the end, when the vital powers are excessively reduced, and the patient hangs on the verge of dissolution. The paper of Dr. Graves deserves, as all that proceeds from his pen does, the attentive consideration of practical men

BENEFICIAL EFFECTS OF BELLADONNA IN A CASE OF PUERPERAL MANIA. By DAVID H. SCOTT, M.D.*

We notice the following case because it bears indirectly upon the preceding paper.

A lady, the mother of four children, was confined of her last in April of the past year. Since her childhood she had been constitutionally nervous, and partaking of an hereditary excitability. About two months previously to the full period of gestation, she began to express a conviction that she should not recover, and, in spite of all persuasion, this increased. But her labour was favourable, and she went on well until the evening of the seventh day,

* Dublin Journal, July, 1838.

when her husband found her sitting up in bed, reciting with astonishing rapidity and accuracy several parts of scripture, and hymns, many of which she had learned in her childhood, and which had been apparently forgotten by her, as she was never, on any occasion before, known to repeat them, neither could she when requested to do so. She was quite unmanageable, scarcely recognized any person at her bed-side, answered incoherently the questions proposed, dwelt constantly on the idea of death, for which she fancied she had been so actively preparing, and though her medical attendant was instantly on the spot, it was with much difficulty he was able to apply his measures. Active purging had a beneficial effect, it relieved the urgency of the symptoms. At this time she was attacked with mammary abscess, and had been prohibited nursing the child. Her nights were now sleepless; opium was largely administered to give repose. She became abstracted, and shunned all society; a melancholy, with occasional paroxysms of high excitement, seized her mind; to those whom she dearest loved she showed the strongest dislike, and abandoned herself to despair and to utter ruin, an object unworthy of the compassion of her Creator. Leeches, occasional purgatives, change of scene and air, regulation of the secretions, which were greatly vitiated, the shower-bath, were employed with partial and indifferent benefit. But at the end of October there was an evident change, the intervals of active excitement became longer, and her manner more rational; she began to feel a pleasure in occasional conversation, and the cautious introduction of visitors seemed to draw her attention to other objects than the delusions which haunted her. Dr. Scott now inserted a seton in the nape of the neck. It only rendered her unmanageable, and was withdrawn. Thinking that direct action on the nervous system might be serviceable, Dr. Scott combined with perseverance in the use of purgatives, a pill composed of half a grain of extract of belladonna to be taken every night.

The effect of this treatment was highly satisfactory, her nights were visited with
No. 74.

refreshing sleep, her skin, which had been parched from the onset of the illness up to this period, became moist, symptom after symptom improved, and, at the end of six weeks, her eye lost its vacuity, her countenance wore a contented and intelligent expression, her mind was calm, collected, and happy, and her feelings so altered, when contrasted, as she expressed it, with her past wretched and dismal state. The belladonna was employed up to the period of her permanent improvement, which was toward the end of December, when, to use the language of her husband, "she was as well as she had ever been during her life."

FACILITY WITH WHICH THE NATIVES OF INDIA RECOVER FROM SERIOUS ACCIDENTS.

In the India Journal, for April 1, 1838, we find a communication from Mr. Spilsbury surgeon of Jubbulpore, from which we extract the following passage.

"Some time ago I had occasion to bring to the notice of the Medical and Physical Society two remarkable cases of wounds, showing with what facility serious accidents are gotten over by the Natives. The first was that of a grass-cutter gored by a Spotted Deer with protrusion of intestines; the second that of a woman in the very last stage of pregnancy pitched on the horn of a bullock, which perforated the cavity of the uterus; to these serious ones of the abdomen and pelvis I have to add another.

A young woman about 18 was brought to me with a very extensive wound of the occiput and posterior portion of the parietal bones inflicted with a tulwar, a piece of the skull and margin was completely detached, laying bare the brain to that extent; she had likewise a severe wound of the left hand cutting through the metacarpal bone of the fourth finger, also a very slight cut on the top of the same shoulder.

When brought to me she had lost a very considerable quantity of blood, her clothes being quite saturated, and was in a very exhausted state from the time of dressing her wounds, up to their healing, which they all did speedily,

with exception of the apparently very trifling one on the shoulder, not the smallest symptoms of affection of the head took place, she never complained of headache nor was there the slightest tendency to heat of skin, except in the injured hand for a day or two. P. nat. app. good, sleep unimpaired, adding another instance of the little constitutional irritation that takes place in natives after very dangerous wounds."

OBSERVATIONS ON THE FLUID IN THE
VESICULÆ SEMINALES OF MAN. By
JOHN DAVY, M.D., F.R.S., Assis-
tant Inspector of Army Hospitals.*

In this country opinions are unsettled with respect to the uses of the vesiculæ seminales. Though some persons think them reservoirs for the secretion of the testes, the majority adopt the opinion of Hunter, and conclude that they furnish a fluid subsidiary to the semen.

Dr. Davy has investigated the subject in a very able, and a very complete manner, and the result of his researches is contained in our esteemed northern contemporary. His paper is a long one, the observations contained in it are numerous, and the conclusions are sufficient for our space and purpose. The secretions of the testes, vesiculæ, and vasa deferentia, were examined in twenty cases.

Excepting in two instances, viz. the 18th and 20th, no animalcules could be seen in the fluid expressed from the divided substance of the gland. The fluid when it could be obtained in sufficient quantity for accurate observation, was transparent, generally contained globules nearly equal in diameter to the blood corpuscles, and invariably contained dense particles, apparently spherical, very much smaller, from twelve to fifteen times smaller, and which, it may be conjectured, are the ova of the spermatic entozoa. In the two instances in which spermatic animalcules were found in the fluid of the tubuli, the quantity of the fluid was greater than in the others.

The inferences drawn from the whole of the observations are these:—

The first inference is that the *vesiculæ* are seminal reservoirs, according to the old opinion on the subject, and that which is still most commonly entertained by the continental physiologists. And next, that they are not merely reservoirs but are also secreting organs, furnishing mucus, and perhaps some other fluid, for admixture with the semen.

The first inference is supported by the general resemblance, in several cases, of the fluid of the *vasa deferentia* and of the *vesiculæ*, and of the existence of the characteristic spermatic animalcules in the fluid of the *vesiculæ*, in every instance in which they were detected in the fluid of the *vasa deferentia*. Hunter does not mention having used the microscope in his inquiry. If he had, he could hardly have failed to have arrived at a different conclusion.

"The second inference is supported by there being a certain difference in almost every case between the fluid of the *vesiculæ* and that of the *vasa deferentia*, and especially by the circumstance, that the difference of quality is most perceptible in the fluid of the fundus,—where most out of the way of being readily mixed with the fluid of the testes. What the exact difference of qualities is between the fluid of the vesiculæ and of the *vasa deferentia*, and, it may be added, of the *vasa deferentia* and of the testes, in perfect health, remains to be ascertained. It can be determined only by careful examination and comparison in the instances of criminals who have been executed, or of persons, who have been killed by accident, not labouring under chronic disease, and in the vigour of life. I am disposed to think that the difference will not be found very considerable, and that between the fluid of the vesiculæ and of the *vasa deferentia*, it will consist chiefly in the former being more dilute and perhaps more bland and mucous. Hunter was of opinion that the fluid of the vesiculæ is naturally of a brownish hue. As an invariable quality this appears questionable. The sooner after death the fluid is examined, the less brown it is. I have given amongst the preceding

* Edin. Med. & Surg. Journal, July 1, 1838.

cases, instances in which it was colourless, and those examples in which there was reason to consider it least altered in consequence of disease: and, Mr. Hunter's best observations are in accordance, viz. two instances, the only ones given in which examination was made very soon after death. He says, in a man killed by a cannon-ball, 'the fluid in the vesiculæ was of a lighter colour than is usually found in men who have been dead a considerable time; but it was by no means like the semen either in colour or smell.' And, he adds, 'in another man who died instantaneously in consequence of falling a considerable height, and whose body I inspected soon after the accident, I found the contents of the vesiculæ of a lightish whey-colour, having nothing of the smell of semen, and in so fluid a state as to run out on cutting into them.' The colour which the fluid of the vesiculæ commonly exhibits in late *post mortem* examinations is probably partly derived from the infiltration of some of the colouring matter of the blood after death, and, in part, perhaps occasionally, from a vitiated secretion of the follicles, or secreting surface of the vesiculæ, and of the adjoining *vasa deferentia*.

It would be a work of supererogation to enter into a detailed examination of the arguments brought forward by Hunter in support of the views he advocated relative to the vesiculæ and their contents: It has been ably done by Meckel in his *Manuel of Anatomy*, by whom each argument has been seriatim answered, and in most instances, as it appears to me, in a satisfactory manner, but without reference to microscopical research.

Admitting the fact, that the vesiculæ are like the gall-bladder and bladder of urine, recipients, it may be viewed as a fortunate circumstance in our economy, and admirably adapted to the condition of *man*. Like the bile or the urine, so the spermatic fluid in the healthy adult appears to be in constant process of secretion, and to pass as it is formed into its appropriate reservoir, from whence, without disturbance of the system, in a state of continence, it is either pressed out and voided during the act of alvine evacuation, or it may

be in part absorbed. Mr. Hunter, in accordance with the opinion which he had formed of the use of the vesiculæ, did not admit this. He believed that the fluid rather accumulated in the testes, and gave rise there to annoyance, requiring its evacuation by a disturbing act,—a doctrine of some danger, especially to youth, in its consequences. In confirmation of what is stated above, and in opposition to the doctrine of Hunter, I may farther state, that I have frequently examined microscopically the fluid from the urethra following the alvine evacuation, and I have always found it, from a healthy person, abounding in animalcules, the majority of which have always been dead; and thus perhaps, seeming to indicate that the vesiculæ are *cloacæ* as well as reservoirs, and are essentially designed for man, to enable him to control and to exercise that moral check on the passions, by which he should be distinguished from brute animals, and without which no considerable advance can be made in civilization, or in elevation of individual condition and character.

Relative to the effects of disease on the fluid of the *vesiculæ seminales*, and on the spermatic fluid generally, the instances brought forward are too few to admit of extensive induction. They seem to show, 1st, That chronic wasting diseases, terminating in death, arrest the secretion of the testes, or the production of those animalcules, on which, there is much reason to infer, the active power of the semen depends; 2dly, That the contents of the vesiculæ and *vasa deferentia*, under the influence of disease, retain longer their characteristic qualities than the contents of the tubuli; and, 3dly, That there is least fluid in the vesiculæ and in the *vasa deferentia*, and that it is most altered in instances of chronic diseases of the abdominal viscera, and especially of the intestines.

The subject of inquiry is in many respects curious, and some other of its relations are not uninteresting or unimportant. I shall allude to one only before concluding, and that connected with medical jurisprudence.

Admitting that spermatic animalcules are characteristic of an essential

to healthy spermatic fluid, in certain doubtful criminal cases, probably, decisive evidence may be obtained by means of microscopical examination. The spermatic fluid undergoes change rapidly when exposed to the air, and even soon becomes putrid; but the spermatic animalcules, I find, resist change in a remarkable manner. In one instance, distinct remains of these animalcules were observed in putrid fluid, which had been kept ten weeks, at a temperature varying between 50° and 60° of Fahrenheit. In another instance, some fluid of the vesiculæ was applied to linen, and wrapped in paper and put by in a close drawer. It was examined the following day; at the end of a week, and after eighteen days, and each time animalcules were discovered under the microscope. The mode of making the trial was by saturating a small portion of the smeared linen with a few drops

of water, and gently pressing out a drop for the experiment. Fragments of the animalcules were very distinct, and sufficiently characteristic; and on careful inspection, an entire animalcule, here and there, was observed. The application of these facts to the purposes of evidence does not require any comment."

LIABILITIES OF THE POPULATION OF ENGLAND AND FRANCE TO HERNIA.*

From an able statistical paper by Mr. Marshall, Deputy Inspector General of Army Hospitals, on Hernia, we extract the following summary of the numbers rejected as conscripts or recruits, on account of Hernia or a tendency to it, in Dublin, Edinburgh, Glasgow, and France.

	Tables.	No. examined.	Total reject.	Ratio per 1000 reject.	No. rejected by hernia.	Millesimal ratio of rejections in consequence of hernia.	
Dub. depot,	I.	42,740	10,279	240	920	21.5 = 1 in 11 of No. reject.	
Glasgow & Edinburgh,	III.	9,528	2,375	248	65	7.1	1 in 34 do.
Germ. Leg.	IV.	40,462	0	0	365	9	
France, mean 3 yrs.	V.	126,099	46,669	368	3,948	31.2	1 in 11.8 do.
Depart. of Seine.	VI.	26,088	11,148	427	834	31.9	1 in 13.3 do.

"The above summary presents several very remarkable results, one of which is, that the ratio of rejections on account of hernia in Dublin is three times that of Glasgow and Edinburgh. Hernia appears to be 50 per cent. higher among conscripts in France than among recruits examined in Dublin. The uniformity of the ratio of rejections for hernia among conscripts in France for three years (31.2), and in the department of the Seine for a period of eleven years, (31.9), is sufficiently remarkable. The much higher ratio of rejections for disabilities in general among the conscripts in France, than among recruits examined for the periods specified in Dublin and Scotland, is also calculated to excite attention. Many speculative attempts have been made to estimate the proportion of cases of hernia among

the population in this country, but hitherto, as might have been anticipated, without any approximation to a satisfactory conclusion. The records of hospitals, dispensaries, rupture societies, dissecting rooms, and the reminiscences of medical practitioners, do not furnish adequate materials for deducing either the absolute or relative ratio of individuals affected with hernia among the male population of a country; and I may add, that the words 'prevalent,' 'frequent,' or 'not frequent,' when applied to statistical results, and especially in regard to the existence of such an infirmity as rupture, without reference to the number of persons indiscriminately examined, convey no precise or satisfactory information."

* Ibid.

SPIRIT OF THE FOREIGN PERIODICALS, &c.

SOME OBSERVATIONS ON THE CHANGES PRODUCED IN THE BLOOD BY MEDICINAL SUBSTANCES. By C. G. MITSCHERLICH.

AN enquiry into the action of sulphate of copper on the animal system occasioned by Dr. Mitscherlich to seek for copper in the blood of animals poisoned with salt, and also to observe the blood with the microscope. The experiments and observations instituted for the latter purpose required a comparison with the changes produced in the blood by other medicinal substances and poisons, and thus a series of experiments commenced, which, though not yet ended, have yielded some results, which the author now communicates.

In order to ascertain the effects of medicinal substances, and particularly to trace these effects step by step, it is first necessary to know the chemical combinations, which are formed by a medicinal substance in the stomach, &c., and to determine which of these can be absorbed. Then the changes which the blood may undergo in this way, and which it does actually undergo in the economy, are to be ascertained. In order to know these, the habitude of the solution of a medicinal substance in water with respect to blood, the habitude on the same medicinal substance in its combination with the albuminous material, &c., which may be formed in the stomach, and lastly, the habitude of this medicinal substance in living animals, and in man, with respect to the change which the blood undergoes, are all to be investigated. The sulphate of copper, and the sulphate of iron, whose combinations with albumen may be readily exhibited, and in which the composition of the latter combinations is already ascertained by chemical investigation, were chiefly employed for the following experiments. The blood-globules in the frog are peculiarly adapted on account of their size and flat form for this series of experiments, and in the frog one can likewise observe the

changes of the blood in poisoning. One of Schiek's microscopes with a 400 magnifying power gave the following results.

The concentrated solution of sulphate of copper in water, mixed with some frogs' blood, first presented a turbidness of the serum, which depends on the formation of insoluble combinations. The blood-globules retain their oval form, but often appear in an irregular figure, being sometimes more, sometimes less curved on the surface. If one observe the blood-globules when they stand on the edges, or turn round, they appear so thin, that one cannot see the muscles and because they are curved on the surface, they present great irregularity in the direction of the edge. The solution of the sulphate of iron in water is similarly disposed with respect to the blood-globules. This change of form probably depends on the chemical action of the metallic salt on the integuments, but probably the contents of the blood-globules is at the same time diminished and changed. If the above solutions be injected into the veins, a portion of the blood must be changed in the way now mentioned. In other solutions it is observed that the blood-globule swells in volume, which appears to be occasioned by the admission of the surrounding fluid. There is further observed in concentrated solutions of other substances, a great multiplicity of form in the blood globules, which have not yet been established by the author, and which possess but little value, as long as the connexion of the new form with the structure of the blood-globules, with the attraction of both fluids, as well as with the chemical relation of the constituents of the solution and of the blood-globule cannot be demonstrated. Some changes of form indicate that one may be able to infer from them the structure of the blood-globules.

The change of form, which the solutions of sulphate of copper or of sulphate of iron, of sal ammoniac, chloride of sodium, saltpetre, &c. produce, does

not take place in the living system, nor does the acetic or oxalic acid, nor ammonia, &c. dissolve the blood-globules, if these medicinal substances are not immediately injected into the blood-vessels. In the stomach, to wit, or in other organs, new chemical combinations are formed before absorption, and none of these substances passes unchanged into the blood. In order to discover changes of the blood-globules in the way they may take place in the system, the blood must be mixed with solutions of the combinations which may be formed in the stomach, and from hence be again absorbed. Our author first experimented with the sulphate of copper and albuminous material, dissolved this combination in the smallest quantity of hydrochloric acid, and mixed the compound with a small quantity of blood. When observed on the surface, the blood-globules were for the most part rounder and somewhat smaller; placed on the edge, they appeared considerably increased in thickness, so that the thickness amounted to from $\frac{1}{4}$ to $\frac{1}{2}$ in length. The nucleus was likewise increased, and, if the blood-globule stand on the edge, the nucleus is seen in the centre, without its touching the lateral parietes, so that the external covering every where surrounds the nucleus without being touched by it, and according to the quantity of the fluid which it incloses, it lies nearer to or farther from it. The contents of the blood-globules might probably amount to from twice to four times the quantity which they commonly contained in the serum of the blood. The solution of the sulphate of the albumino-oxide of iron in the smallest quantity of hydrochloric acid evinced precisely similar habitudes. This combination consists, according to a chemical examination, of 65 per cent. of neutral sulphate of iron and albumen, and accordingly its position is precisely similar to that of the above combination of the copper-salt.

These experiments only shew that a change of form in the blood-globules is possible under certain circumstances, and that the contents of the same may increase or decrease, but they do not

shew that such a change takes place in the living system. With respect to the latter point our author instituted some experiments. Some frogs were put into glass vessels, which contained so much of a weak solution of chloride of sodium, saltpetre, or salamoniac, that the animals were not entirely covered by it. They died within an hour or later, according to the quantity of the salt dissolved. Beneath the skin in the cellular tissue, a great quantity of fluid was found, the blood was dark, and was very slow in coagulating, and the serum existed in very great quantity. A change of form in the blood-globules he was not able distinctly to perceive. If, on the contrary, frogs were placed in a solution of the sulphate of the albumino-oxide of iron, the animals die in about from 24 to 48 hours. Then scarcely any fluid is found beneath the epidermis, the blood is observed to be very thick, clear red, and rapidly coagulating, and the quantity of serum is very much diminished. Neither could an essential change in the form of the blood-globules be detected here. If the blood be examined in frogs after their being exposed for a long time to the action of the above fluid, but before they have died in it, it is found changed in the same sort of way, but not however in the same degree. A change of form in the blood-globules was accordingly not to be found in the above experiments, notwithstanding the serum was essentially changed; on the contrary, the different quality of the serum in the above experiments, is an important point for ascertaining the mode of action of many medicinal substances.

These experiments our author is determined further to extend, and make known the results of them, so far as they yield certain and determinate facts.—(*Archiv. für Anatomie, Physiologie und Wissenschaftliche Medicin. Von Dr. J. Müller, Jahrgang, 1838. Heft 1.*)

M. RASPAIL ON THOSE DISEASES WHICH MAY BE THE WORK OF INSECTS, AND ON THEIR TREATMENT.

M. Raspail very justly remarks, that

medical men have not yet paid due attention to the very curious, but certainly very obscure, subject, how far the presence of parasitical insects in the living body may be the cause of disease, not only in man, but likewise in the lower animals.

So little do we know of the agency of atmospheric phenomena in the production of numerous wide-spread maladies, that it may perhaps be very safely asserted, that in the present day we cannot boast of any information at all more exact and trustworthy than was possessed by the writers of antiquity.

Our attention has been exclusively directed to the study of the merely physical and sensible changes of the air, viz.: those which respect heat and cold, moisture and dryness, gravity, electrical condition, and so forth; and we seem to have scarcely even suspected that there may be other kinds of change and depravation, depending upon the diffusion of innumerable microscopic animalculæ through the atmosphere, although many phenomena in the history of some diseases render such a supposition far from being improbable.

There exists, it is well known, says M. Raspail, an entire class of microscopic animals, known to naturalists by the name of Infusoria, and which were first comprehensively described by the German author Müller. Their name indicates that it is in infusions, or liquids which contain organic fermentible substances, that these living beings are developed. We are not to suppose that the fermentation is owing to the presence of these animalculæ, or that this process is, properly speaking, the cause of their developement. It is more reasonable to infer that the changes, which the fluid undergoes, are only favourable and necessary to the evolution and metamorphosis of *ovula* or *germs*, pre-existent in, and diffused through, it.

If a small portion of meat is permitted to soak for a few days in pure water, the fluid, when examined with the microscope, will be found to contain innumerable infusory animalculæ. The same is the case if we use a portion of

the white of egg, or the leaf of a plant, in the place of the meat. If the albumen be within a vessel or any other tissue of the body, the result will be the same, provided it be in the same conditions; or, in other words, provided it be at rest, exposed to the air, and removed from the *normal elaboration* of the organ. If therefore there be formed in a living tissue an albuminous deposit of pus—which is not fætid and not yet ammoniacal—there may speedily be developed in it multitudes of infusory animalculæ, of different sorts, according to the nature of the purulent fluid.

The medical journals in the year 1836 announced the discovery of an infusory animalcule in the pus of syphilitic sores, which was regarded by many as the real and essential cause of the venereal disease.

But from the descriptions, which were given of this animalcule, we (M. Raspail) at once recognised that it was altogether similar to, and indeed identical with, the infusoria which are developed in an infusion of meat—in short that it was the *Cercaria gyrynus*, or *gibba* of Müller. We did not hesitate to assert that this animalcule was the effect and not the cause of the disease; that it was the *parasite* and not the *artisan* of the pustules. Perhaps we require no other proof of this statement than the circumstance of no infusoria of any sort being ever discoverable in the pustules when first formed.

M. Raspail remarks that no one can imagine, before he has studied this curious subject with attention, under how many forms, and with what constancy and regularity, the presence of an insect in any tissue of a living body, vegetable or animal, causes certain lesions or organic changes.

It is indeed very wonderful to notice how many new functions—morbid as a matter of course—these minute animalcules cause to arise, either on the surface or in the interior of living bodies. One, for example, residing in the centre of a cellule or little cavity, fashions it into a sphere, as a potter does a vessel of clay; and this atom of a being produces a large and wide-spread *gale* on the leaves of the oak;

while another insect, equally microscopic, engenders on the same leaves a sort of little flat eminence, mamillated in the centre, and which has been often mistaken for a species of fungus or mushroom.

A third, by pricking the stem of the rose, causes a minute greenish and mossy-looking production to sprout out, which gradually extends itself, and is known by the name of *bedeguar*. But it is unnecessary to pursue this curious subject, which, although well fitted to throw some light on the development of morbid structures, belongs rather to the botanist than to the physician.

M. Raspail is strongly impressed with the idea that many, if not all, of the Exanthemata are in truth the result of insect operation on the skin; just in the same manner as the diseases of the surface of plants are certainly, in most cases, attributable to this agency. He alludes to the cutaneous affections so frequently caused by gnats, lice, fleas, bugs, and by the *acarus* of scabies, or the itch. If, as is well known, these insects can produce papulæ, pustules, &c. on the skin, is it very unreasonable to suppose that many papular and pustular exanthemata may be the work of minute microscopic animalcules, which have hitherto eluded our research?

Those, who have resided in tropical climates, have probably seen the effects of the *chigres* on the feet of negroes. If these insects are extracted, all the unpleasant effects speedily subside; but if they are permitted to remain in the part, the foot and leg have been known to take on all the characters of aggravated elephantiasis. From this instance, M. Raspail, with rather a hurried zeal, concludes that we should refer the various cases of elephantiasis to the different phases of the invasion of an insect: (*donc il faut rapporter les divers cas d'elephantiasis aux diverses phases de l'invasion d'une insecte*).

Besides exanthematous diseases, M. Raspail is of opinion that several others, such as cancer, tubercles,* cholera,

influenza, variola, and certain disorganisations of the liver, kidneys, &c. are the work of entozoa, or insects in the animal economy.

It may be objected to such an idea, in the case of small-pox at least, that the virus of this disease is known to retain its morbid properties, after it has been kept in a dried state for a considerable length of time. But this objection is at once answered, when we call to mind that the ova of numerous insects, after being completely desiccated for months and even years, will speedily become vivified and germinate, if moistened with a little water. Perhaps the circumstance of such a disease as variola affecting the human body only once—at least generally speaking—in the course of a life-time is less easily explicable on the *insect etiology*, which we have now proposed. But then it is worthy of notice that it is not at all improbable that it is only under certain conditions of the system—the nature of which however, we acknowledge, is not at all known to us—that the presumed animalcules can have any influence.

In conclusion, M. Raspail directs the attention of his readers to the excellent effects of camphor, not only as a preservative against the attacks of all the common vermin, such as lice, bugs, fleas, &c. but also as a most effectual remedy against the itch, and one or two other diseases, which are perhaps the work of insects on the skin. He strongly recommends that a certain portion of this substance should be always mixed with the sulphur ointment used against scabies, and with the white precipitate ointment used against *crabs*, lice in the head, &c.—*L'Experience*.

times, have suggested that tubercles are at first mere *hydatids* or *acephalocysts*. M. Raspail thinks that it is more probable that these morbid products are the work or effects of animalcules than that they are the animalcules, themselves.

* Several pathologists, at different

SCIENTIFIC NOTICES IN NATURAL HISTORY.*

1. *A new Classification of the Entozoa found in the Human Body.*

Infu- soria.	{	1. Cercaria Seminis	in the semen.
		2. Trichina Spiralis	—voluntary muscles.
Stercorintha (parenchymatous)	{	3. Echinococcus hominis	— liver.
		4. Cysticercus cellulosæ	— muscles, brain.
		5. Ditto visceralis	— intestines.
		6. Tænia solium	— small intestines.
		7. Bothriocephalus latus	— ditto, ditto.
		8. Polistoma venarum	— veins.
		9. Ditto pinguicola	— ovaries.
		10. Distoma hepaticum	— gall-bladder.
Nematoidea (hav- ing vessels & nerves.)	{	11. Ascaris vermicularis	— rectum.
		12. Ditto lumbricoides	— small intestines.
		13. Strongylus gigas	— kidneys.
		14. Spiroptera hominis	— bladder.
		15. Tricocephalus dispar	— cæcum and large intestines.
		16. Filaria bronchialis	— bronchial glands.
		17. Ditto medinensis	— cellular texture.
		18. Ditto oculi	— eye.

2. *On the Heat or temperature of Insects.*

It is well known that the interior of bee-hives maintains, throughout the Winter, an elevated temperature. This is no doubt owing to the number of bees collected within a small space. Mr. Newport has recently ascertained, from the results of numerous experiments, that *winged* insects, and more especially such as fly about a great deal, develop much more caloric than those which are *apterous* or *wingless*, as ants, &c. All larvæ and chrysalides also, having a much less active vitality and a less extended respiratory apparatus than perfect insects, have a lower temperature than the latter.

Indeed it seems to be a general law that the amount of animal heat is

without exception commensurate with, and proportionate to the development of the respiratory and digestive functions. Butterflies, when flying about, appear to disengage a greater quantity of caloric, than when they are at rest; and it is known that silk-worms, which eat so voraciously and then require, more than at other times, a frequent renewal of air, maintain a very elevated temperature.

3. *Ventriloquism in Birds.*

The Agami of Guiana (*psophia crepitans*), belonging to the stork or crane family of birds, has long been known to have ventriloquist powers: uttering sounds which seem to proceed from the anus, its bill all the while remaining quite closed. Many other birds have a similar faculty; and indeed we might *a priori* have anticipated this form the anatomical peculiarities of the wind-pipe in this class of animals,—the trachea of birds being provided with a larynx at its lower or bronchial, as well as at its upper, extremity. Hence, by making a continuous inspiration, sounds may proceed from the chest, while the proper or superior laryngeal cartilages

* We do not often depart from our rule of devoting this Journal to subjects which are of strictly practical import. It is interesting however, and useful at the same time, to allude occasionally to some topics in natural history, as they cannot fail to enlarge our knowledge of the physiology of life.

remain at rest. All aquatic birds, are more or less decidedly ventriloquist; so also is the thrush, the black-bird, the red-breast and many others of the warblers.

4. On the Origin of the Parasitical Cryptogamous Plants of Vegetables and Animals.

M. Unger has recently endeavoured to shew that the stagnation of the juices in the intercellular spaces of plants is in itself sufficient to produce the pulverulent parasites, known under the names of *uredo*, *puccinium*, *acidium*, &c.

The granula or pulverulent corpuscles of which these consist, exhibit numerous *sporidia*, simple or multilocular, which fructify and propagate themselves upon the organism on which they are developed. These formations are therefore properly *entophyta* or vegetable parasites, and are strictly analogous to *entozoa* or animal parasites. Some of these are limited to the surfaces only of living beings, and are designated *epiphyta* in vegetables, and *epizoa* in animals.

If these cryptogamous vegetables—and we may add the animalcules, whose origin and growth is equally mysterious—were spontaneous productions, we might reasonably suppose that they would not have any fixed or determinate forms, but that they should be variable and uncertain in all their characters. This however is not the case. The ovules, germs, or sporules of these living beings are so microscopic, and at the same time so pellucid, that they quite elude all attempts to investigate them minutely. It is not therefore very surprising that they should be widely diffused, as in all probability they are transported hither and thither by currents of wind, &c. although they remain quite unappreciable by the human organ of sense. It is a curious subject of enquiry, what are the circumstances which favour, or which are necessary to, the development of these vegetable germs?

We know that many of them will not grow upon any, save a very few, objects. For example, the germs of the *onygena*

exigua seen to continue floating through the atmosphere, until they meet with the hoof of a dead horse, the only substance on which they ever develop themselves; and again the elegant *isaria* is never found, except upon the chrysalides of butterflies. This serves to explain the development of the muscardine of silk-worms. The species of mouldiness, described by various authors under the name of *botrytis bassiana*, is developed only in the fatty matter under the skin of the silkworm, when diseased. Other species of *mucedo* or mould have been detected on various dipterous and orthopterous insects; and it has been observed that the granules or corpuscles, of which these cryptogamous productions consist, are frequently thrown or spurted out to a considerable distance, and attach and fix themselves to other living beings.

When we consider these things, does it seem improbable that some epidemic diseases, especially those of an exanthematous character, may probably be the effect of cryptogamic vegetations, rather than mere pseudo-morphoses of the skin? We already know for certain that some disorders—the itch, for example—are the direct results of the presence of minute insects. Now we cannot very well believe that these are developed by, what is termed, spontaneous generation; the germs or ova of the animalcules must have been derived from somewhere; but whence, or in what manner they are derived and propagated, we literally know nothing.

5. Edible Milky Juices of Vegetables.

The greater number of milky-juiced plants—such as the Euphorbiæ, Apocynæ, &c.—are acrid and poisonous. Certain members however of these vegetable families yield a safe and nourishing sap. Thus the cow-tree (*galactodendron brosimum*), which belongs to the family of figs (*urticæ* of Jussieu), is a striking example of this fact. There is a still more wonderful plant of this kind in Guiana, the *tabernaemontana utilis*. It is one of the family of the Apocynæ, most of the members of which are more or less

dangerous. It yields a rich, creamy, and sweet-flavoured juice, which is said to be very nourishing.

M. Poiteau has recently discovered in another of the Apocynæ, the *Couma Guianensis*, similar properties.

One of the most remarkable instances of a milk-bearing plant is found in the poisonous family of the Euphorbiacæ. The *Euphorbia Balsamifera* of the Canary Islands is, according to Von Buebe, at certain seasons, so full of a milky juice that its bark or rind becomes quite distended and shining. When a cut is made into it, the milk is thrown out to a considerable distance. The inhabitants collect it and thicken it over the fire into a gelatinous or pasty consistence; and this food they call *tabayba*.

Another species of this family, the *Euphorbia Canariensis*, which is usually found growing in the same localities as the preceding, is well known to yield a most virulent poison.—*Journal de Pharmacie*, &c.

ON THE INFLUENCE OF THE CEREBELLUM AND SPINAL MARROW ON ERECTIONS OF THE PENIS.

MM. Gall and Serres were among the first to maintain that there exists an intimate connexion between the functions of the cerebellum and the feelings of sexual desire.

M. Bourdon, in his Medical Physiology, published in 1828, has adopted their views. At page 116 he uses these words: "The increase of the cerebellum always announces a greater degree of corporeal vigour, and a greater propensity to sexual intercourse. Moreover, the diseases of this organ, and more especially such as are of an apoplectic nature, are almost uniformly co-existent with affections of the generative parts. MM. Gall and Serres have frequently found effusions in the cerebellum in persons, who had exhibited the phenomena of obstinate priapism or nymphomania."

The truth of this doctrine has however been disputed by numerous able

writers, and medical men of the present day seem to be quite uncertain what value should be attached to it.

Perhaps the following remarks will serve to clear the subject of part of its obscurity.

It would seem from the results of pathological enquiry, that all the regions of the cerebellum have not an equal degree of influence on the genital organs. The *processus vermiformis* appears to be the part most intimately and immediately influential. Out of nine cases of hæmorrhage of the median lobe of the cerebellum there were six, in which seminal pollutions were observed; whereas in not one of the cases of hæmorrhage occurring in the lateral lobe was this symptom manifested. It would seem that the more near that the effusion, be it sanguineous or purulent, is to the *rachidian bulb*, and the greater that the compression upon this part is, the more decided and permanent is the affection of the genital organs. Of thirty-six cases of tumors developed in the substance of the cerebellum, permanent erection of the penis was observed in one only; and in this solitary instance, the tumor exercised a very manifest compression on the part alluded to. It is important to bear in mind, that it would seem that the affection of the genital organs is rarely, if ever, present in those diseases of the cerebellum, in which there is any atrophy or decided ramollissement of its texture.

We shall now state a few data, illustrative of the

Influence of the Spinal Marrow on the functions of the generative organs.

M. Ollivier is of opinion that, in acute Myelitis, or inflammation of the spinal cord, there is generally a tendency to priapism, and that the chronic form of this disease induces ordinarily an opposite state, or one of impotence. It is a well-known fact that the penis is frequently found to be in a state of erection, even for some time after death, in criminals who have been executed by hanging.

M. Segalas in 1825, announced to the Royal Academy of Medicine that, according to his experiments, the *vesicula*

seminales seem to be under the influence of the spinal marrow, and that the state of these organs may serve to throw some light on the diagnosis of wounds of this nervous cord. (Archiv. de Med. t. ix.)

The mode of action of those remedies, which have a special operation on the spinal medulla, such as the nuxvomica, &c., seems to lead to a similar conclusion. Certain it is that strychnine has succeeded in curing several very obstinate cases of sexual impotence. (*Vide Journal de Connoiss. Med. Cir. May, 1836*).

It is moreover worthy of notice that *douches* of cold water on the lumbosacral region have been found very useful in checking involuntary pollution. The same remedy is used with advantage against the nocturnal incontinence of urine in young persons.

The occasional application of leeches or even of the cupping-glasses, over the same part is beneficial.

From what we have now stated, it appears that the state of the spinal marrow has quite as much, if not a more decided and direct, influence on the generative organs as the cerebellum itself.

Physiology confirms the justness of this remark. Most persons are probably aware that lying on the back is apt to induce priapism. Now the cause of this is doubtless that the heat of the bed excites and stimulates the spinal cord, which then re-acts on the generative organs. Friction on the loins has the same effect in a more powerful degree. Slight irritation or puncture of the medulla spinalis—when this has been denuded in experiments—is reported by M. Segalas to induce fulness and erections of the penis.

These circumstances are perhaps sufficient to prove the direct and immediate influence of the spinal cord on the genital functions. If we now enquire whether the whole extent of this cord appears to be equally influential in this-respect, the following memoranda may be read with interest. The conclusion, which is deducible from M. Ollivier's great work, is certainly that involuntary erections are apt to

occur in the lesions, whether accidental or traumatic, of this organ at all the different regions of the column, cervical, dorsal, and lumbar;* and here it is worthy of notice that the phenomena seemed to be as frequent in ramollissement and other chronic diseases, as in acute inflammation and after recent injuries, of the part—a point of distinction between the symptoms of disease of the cerebellum, and of that of the spinal marrow.

We are now perhaps better prepared to examine the dependence of the generative functions upon the conditions of the great nervous centres, and to ascertain whether any one part either of the encephalon or of the spinal marrow is specially connected with them.

The act of erection has two physiological sources, according as it is, or is not, associated with sensual desire.

All ideas or mental conceptions must be the acts of the encephalon; and every sensation or perceived impression likewise belongs and is referrible to the brain.

It is quite necessary to distinguish the inclination or desire,—whose seat according to Gall is in the cerebellum—from the merely physical act of erection, which may take place independently of any voluptuous thoughts and without the participation of the will, and which is in fact an *accident* of the venous circulation of the generative organs. This distinction will perhaps serve to explain the difference

* It would seem however that M. Ollivier himself does not draw the same inference from his observations as our author is inclined to do, as he (M. O.) expressly says, *la lesion de la maele ne rend pas raison de l'erection de penis*. It should also be stated that the symptom of priapism is unquestionably of more frequent occurrence in lesions of the cervical than of other parts of the spinal column. It was observed in *five* out of *eleven* such cases reported by M. Ollivier; whereas it occurred in *three* only out of *thirteen*, in which the dorsal portion was the seat of the disease.

in the phenomena of cerebellar apoplexies. In some cases there remains a slight or partial degree of perception and sensibility, and the encephalon continues to react, although more feebly, as in a state of health. Now either the disease exercises—whether by continuity or contiguity—a morbid influence on the vitality of the spinal marrow, or this cord is affected with a simultaneous lesion of function: under either condition, there may possibly be erection.

In more severe cases all sensibility is destroyed, and the spinal marrow is not affected or in any way influenced; and then the apoplexy is not accompanied with the phenomenon in question.

What occurs in dreams justifies the division or distinction, which we have pointed out between the two physiological acts or impressions. Were it otherwise, should not all nocturnal pollutions be accompanied with dreams? But this, we know, is not the case; and such pollutions are very often attributable to an irritability of the spinal marrow, being quite unconnected with any sensual ideas.

The conclusions, which M. Petrequin deduces from his researches, are the following:

1. The erection of the penis cannot properly be considered a pathognomonic symptom of the diseases of the cerebellum, although it may be co-existent with them; it has therefore no positive value as such an indication.

2. This phenomenon depends upon an action of the spinal marrow. The truth of this position is exemplified in traumatic lesions of the spine, in death from hanging, in myelitis, hematorachis, and in the effects of dorsal decubitus, friction or titillation of the back, &c. &c.

3. We should distinguish two sorts of erection, that which depends exclusively on the action of the spinal marrow, and that which proceeds *mediately*, or indirectly, from cerebral reaction. The first is purely spinal and corporeal, while the second is cerebro-spinal, and therefore partly mental. The brain cannot act directly on the generative organs, but only through the intravention of the spinal cord.

4. We should not at once conclude, from the occasional existence of erection in cerebellar apoplexy, that the venereal instinct necessarily resides in this part of the nervous system, especially as we are not aware of the state of the spinal marrow in this very disease.

The erection may exist, and no doubt in such cases does exist, without being associated with any sexual appetite or desire. That the seat of this desire may be in the cerebellum seems however to be not at all improbable.—*Bulletin Medicale Belge*.

RESEARCHES ON THE CAUSE OF THE ABNORMAL AUSCULTATORY SOUNDS IN THE LARGE ARTERIES, &c. By M. BEAU.

Various have been the explanations proposed by different writers to account for the phenomena, alluded to above.

M. Laennec, who was the first to direct the attention of medical men to their existence, was of opinion that they were attributable to spasm of the arterial tubes.

This *vital* explanation of a phenomenon which is simply and purely *physical*, is however manifestly at fault.

Of late years, most physicians have admitted that the sounds in question are the result of a certain vibration, (*fremissement*) of the arterial parietes, induced by the rapid flow of the blood along them; but, as to the manner in which the blood causes this vibration, they are not agreed.

Most however seem inclined to assent to M. Bouillaud's doctrine that it is owing primarily and essentially to an *exaggerated friction of the arterial parietes by the wave of blood*, as it passes along.

We shall briefly examine this view of the question before we proceed; and for this purpose we shall allude to the results of several experiments performed by different authors.

1. If we attach the extremity of an arterial tube to the canule of a syringe, and then force a stream of water along it with considerable force, we find that on each stroke of the piston—that is at

each time that the tube is most distended—a distinct vibration is perceptible both by the finger and by the ear; the intensity of the vibratory movement being proportional to the force of the piston's stroke, and to the distention of the arterial canal.

2. If a less quantity of fluid be propelled by each stroke of the piston, so that the tube is less distended, no vibratory motion, as described in the former experiment, can be detected; and the only perceptible phenomenon is a pulsatile heaving, as each wave of water is forced along.

3. Without increasing the force (*etendue*) of the strokes of the piston, it is still possible to reproduce the vibratory movements of the artery. All that is necessary for this purpose is to exercise a certain degree of pressure on the vessel; the vibration will then be perceptible at the contracted point.

From the results of these experiments it would therefore seem that the vibratory movement, and the sound which accompanies it, are indeed produced by the *exaggerated friction of the fluid*, passing along, *against the parietes of the vessel*; and it is not less clear that the cause of this exaggerated friction is the great quantity of fluid passing along the tube, in proportion to its calibre,—whether the defect of proportion is owing to an augmentation of the wave of the current, or to a contraction of the tube at one point of its *trajet*.

It thus appears that the real cause of the phenomena, to which we have been alluding, is a disproportion between the bore of the vessel and the volume of the current which passes through it.

Let us now briefly examine this subject *pathologically*, and try to ascertain whether these phenomena, when they occur in a state of disease, can be explained on the same principle.

The abnormal *bruits* of arteries may be conveniently arranged into such as are local, and such as are general or diffused.

The former are limited to one point, and arise from a morbid action in the part itself; the latter are, on the other hand, connected with the existence of an affection, which causes them to be

perceptible in various arteries at the same time.

The local *bruits* are met with in cases of aneurismal tumour, of varicose aneurism, or whenever there exists any compression of an arterial tube.

The effects of pressure on a large artery in eliciting a blowing or sawing sound may frequently be perceived by simply applying, with some degree of force, the end of the stethoscope over the *trajet* of the vessel.

The same result is produced by the pressure of any contiguous tumor. Thus there was recently in the clinique of M. Fouquier, a woman, afflicted with a cancerous swelling of the stomach, the pressure of which on the abdominal aorta caused a distinct *bruit de soufflet* to be heard.

M. Rufs quotes a case of a moveable goitre, where the patient could at will cause a similar bruit in the carotid arteries, by varying the position of his neck.

But perhaps the most remarkable example of this kind is that related by M. Bricheateau in his Clinique de l'Hôpital Necker. It was the case of a woman who died in the wards there, after having exhibited all the chief symptoms of pregnancy, and, among the rest, the *placental* or *uterine bruit*.

On dissection, one of the ovaries was found enormously enlarged: the pressure of the tumor on the iliac artery had given rise to the auscultatory phenomena.*

Let us now apply, in explanation of the general or diffused arterial bruits, the theory on which we have attempted to account for the local bruits—viz., the disproportion between the bore of the blood-vessels and the volume of the current, which is propelled through them.

The diseases, in which these abnormal bruits are most frequently heard at different points of the arterial system, are insufficiency of the aortic valves, plethora, hypochondriasis, chlorosis, &c

* M. Bouillaud has quoted this case in proof of his opinion that the *placental bruit*, during pregnancy, emanates not from the uterine, but from the iliac, vessels.

1. *Insufficiency of the Aortic Valves.*

—The characteristic signs of this morbid state are, *a*, a blowing bruit audible during the second sound of the heart, (it may indeed be prolonged, so as to be heard during the first sound also); it is loudest and most distinct immediately over the seat of the aortic valves. *b*. A blowing bruit in many of the arteries of the body: this is isochronous with the dilatation of the arterial tubes and consequently with the first sound of the heart. It is to be remembered that, along with the state of the aortic valves in question, there is usually co-existent a greater or less degree of dilatation of the left ventricle of the heart. Hence the wave of blood at each systole is greater than in health; and, if the contraction of the ventricle is powerful, there is no obstacle to prevent it (the wave) being propelled entirely along the arteries. Under these circumstances the shock of each impulse against the arterial parietes is sometimes so strong, that it may be actually heard at a little distance from the surface of the body.

2. *Plethora.*—In not a few cases of unusual fulness of the blood-vessels, and more especially if the system is at the time affected with any febrile excitement, a vibratory movement, accompanied with a rushing or blowing bruit, may be perceived along the *trajet* of several of the large blood-vessels.

After what we have said above as to the cause of these phenomena—the disproportion between the volume of the arterial current and the size of the vessels—it is unnecessary to enlarge upon this subject.

3. *Hypochondriasis.*—M. Beau has met with two cases only of this disease, in which the arterial *bruits* were very distinct.

Both patients were adult males; and in both the auscultatory phenomena were strongly marked.

Vertigo and confusion, sparks and flashes of light before the eyes, a feeling as if there was every now and then a detonation within the head, or as if a hammer was constantly at work there, oppression, a sense of strangling suffo-

cation, &c., were the most prominent symptoms. When the attack had passed over, the pulse recovered its ordinary strength and volume, and the arterial *bruits* were no longer perceptible.

It will be observed how the symptoms in these cases closely resembled those of extreme plethora; and even some of the outward phenomena, such as the distended state of the subcutaneous vessels, the reddened eye-balls, the flushed face, &c. would seem to indicate that there may be, under certain circumstances, a temporary expansion, as it were, of the circulating fluid.

4. *Chlorosis.*—Here it may be enquired, *in limine*, how can we attempt to explain the arterial *bruits* in this disease by reference to a superabundance of blood, when it is almost universally admitted that there is a decided deficiency of its mass? But in examining this topic a little more attentively, we may be led to the conclusion that the actual *quantity* of the circulating fluid is not diminished, and that it is rather its *quality* only—being much more watery and less nutrient than in health—which is the pathological character of chlorosis.

There is one feature of many cases to which M. Beau appeals as confirming, in his opinion, the idea that there is no positive diminution in the mass or actual quantity of the blood in the vessels. In every case of the disease, in which he has discovered the arterial *bruits*, the arteries exhibited a degree of fulness, proportionate to the intensity of the chlorotic symptoms, and to the distinctness of the *bruits*; this fulness diminishing when the disease begins to be removed, and the *bruits* cease to be heard. It is quite possible therefore that there may be a plethora arising from an attenuated watery, as well as from a rich and crassid blood; and, if so, we can at once account for the auscultatory symptoms of chlorosis on the principles explained above.*

* It may be worth while observing that Boerhaave, in treating of Chlorosis, has expressly intimated his opinion that there is often no deficiency of the

There is another manner in which we may seek to find a *rationale* of some of the arterial *bruits*. Why may there not be, in certain states of the system, an unusually irritable or contractile state of the blood-vessels themselves, so that, while the mass of the circulating fluid remains unchanged, the calibre of the vessels, through which it passes, is more or less diminished?*

Besides chlorosis, there are several analogous affections, especially such as proceed from large losses of blood, in which the arterial *bruits* are generally very distinctly perceptible. In all these cases the existence of these *bruits* coincides with a more than ordinary fullness of the pulse: when this ceases, the *bruits* become invariably less and less manifest. The pulse indeed is soft at the same time that it is full and quickened, *because* the circulating fluids are serous and superabundant, (*la mollesse se joint à la plénitude du pouls, parceque le sang est en meme temps sereux et surabondant*). It seems therefore that, in chlorosis and some other morbid states of the system, there is a *serous polyemia*, which has several characters in common with genuine *plethora* or *sanguineous polyemia*.

Besides the cases already specified, in which the abnormal arterial *bruits* have been heard by many observers, M. Beau has detected their existence in several instances of *lead colic*, of *engorgement of the spleen*, &c. when the pulse was found at the same time to be very full and rapid. He suspects that they will be discovered in many cases of scurvy also; but in his own practice he has had no opportunities of testing the accuracy of this opinion.

It will naturally be supposed that these abnormal *bruits*, in the cases now alluded to, although analogous in their general character to those which we have in the earlier part of this paper

denominated *bruits de l'insuffisance*, and which are usually present in actively plethoric states of the system, have several points of difference: in truth, they are always less rough or rasping, and are much less strongly vibratory, under the former than under the latter circumstances. In both cases the sounds are more distinct in the arteries near to, than in those more removed from, the centre of circulation. Hence they are always louder over the carotids than over the crurals, &c.—*Archives Generales de Medecine*.

ON SUDDEN DEATH, OCCASIONED BY THE SPONTANEOUS DEVELOPMENT OF A GASEOUS FLUID IN THE BLOOD, AND ITS ACCUMULATION IN THE HEART.

In our last number (see the second last article in the Foreign Periscope) we considered some of the most common causes of sudden death, which have their seat in the encephalon, the lungs, and in the heart and great blood-vessels.

We then promised to continue the subject; and to explain to our readers some recent opinions of M. Ollivier respecting the spontaneous extrication of a gaseous fluid from the blood itself as a cause, hitherto unsuspected, of sudden death.

He premises his remarks by alluding to the total absence of any lesion or pathological chance, discoverable on dissection, in not a few cases of this description; and from this fact he very properly argues that "it is not always in an appreciable organic lesion that the determining cause of death is to be found."

The pathological phenomenon of the presence of an aerial fluid in the cavities of the heart and great blood-vessels—capable as this state is of inducing almost instantaneous dissolution—has very probably escaped the notice of most anatomists in several cases, where no satisfactorily decisive traces of disease have been discovered.

It appears however to have been noticed by some. Thus, Morgagni has

red part of the blood, but only a disproportionately large quantity of its serous portion, in this disease.

* Is not this the very doctrine of Laennec, which M. Beau has already impugned as incorrect.

narrated a case of sudden death which he attributes to the interruption of the circulation by the presence of a gaseous fluid in the blood; and there seems to be some allusion to such an occurrence even in the writings of Hippocrates.— (*De Sed. et Causis Morbor. Epist* 18, 19, 24.)

The following two cases were recorded, some years ago, in the Dictionnaire de Medecine, art. *Air*, by M. Ollivier.

Case 1. A young child, who had been affected with measles for a few days, seemed to be quickly recovering from the disease, when, all of a sudden and without any premonitory symptom, he fainted, and expired in the course of a minute or two. On dissection, the heart and large blood-vessels were found distended with air, the parietes of the heart were emphysematous, and its cavities quite empty of blood. In the course of several hours after death, the emphysema had diffused itself through the subcutaneous cellular texture of the trunk.

No organic change could be discovered in any of the viscera; and there was no trace of putrefaction.

Case 2. Similar phenomena to those recorded in the preceding case were observed by M. Ollivier in the body of a robust man, who died quite suddenly a few minutes after he had retired to bed in seemingly perfect health.

The general emphysema did not appear till about twelve hours after dissolution; but then there was not the slightest sign of the putrifying process having commenced.

Case 3. A young woman, 22 years of age, was recovering from a fever, which had left her for a length of time very weak. One afternoon, after having been engaged during the day with trying on some masquerade dresses, she had laid herself down on the bed to refresh herself, expecting to be fatigued with the entertainment in the evening.

While attempting to rise to put on her clothes, she suddenly felt extremely

faint; her head fell forewards on her chest; she screamed out "*I am dying*," and expired almost immediately in the arms of an attendant.

M. Ollivier was ordered by the public authorities to examine the body. There was no outward appearance of any injury or violence; the expression of the features was calm, and like that of one asleep.

The encephalon appeared to be quite healthy; the blood, however, which flowed from the divided vessels was frothy from the admixture of bubbles of air.

All the abdominal and pelvic viscera were sound. So also were the lungs.

On opening the pericardium, the right cavities of the heart were observed to be remarkably distended, and, as it were, blown out, so that when tapped with the handle of the scalpel, they sounded hollow, like the stomach.—When an incision was made through its parietes, they at once sunk down: a large quantity of bloody froth was found in the right cavities. The pulmonary artery also contained some frothy blood.

The very peculiar circumstances of this remarkable case of sudden death—their analogy with the phenomena which have been observed in persons who have suddenly died from the accidental introduction of air into a divided vein, and the presence, discoverable on dissection, of a quantity of gaseous fluid within the right cavities of the heart—led M. Ollivier to attribute it to the spontaneous development and extrication of air from the blood itself, while still circulating in the vessels; and such was the professional opinion which he gave in to the judicial authorities.

M. Ollivier, after minutely reporting the particulars of the preceding case, proceeds to state the opinions of various authors on the occasional presence of extricated air in the heart and blood-vessels during life.

Mery* was of opinion that the atmospheric air could pass from the minute cells of the lungs into the pulmo-

* Mem. del'Acad. des Sciences, 1707.

nary veins. M. Littré* thought that whenever air was discovered in the heart or blood-vessels on dissection, it was almost invariably a *post-mortem* phenomenon, attributable to the arrest and stagnation of the fluids, which had been during life kept in constant circulation. He and also Morgagni admitted, however, that in a few rare cases air might possibly enter into the blood in the manner indicated by M. Mery.

Bichat† seems to have entertained no doubt as to the reality of the occasional development of an aerial fluid in the blood. His words are—"The admission of air into the blood-vessels takes place sometimes in the human subject without being accompanied by the infiltration of it into the cellular tissue: in such cases the death is always very sudden." He adds that he had examined the body of a person who had died almost instantaneously during a convulsive attack of the pectoral muscles, and in whose arteries and veins, more especially those of the neck and head, a quantity of frothy blood, mixed with bubbles of air, was found.

Hitherto it has not been satisfactorily determined, what is the exact chemical nature of the air found in such cases as we have been alluding to.

M. Rerolle,‡ indeed, has recently directed his attention to this subject of enquiry, and the results of some experiments have led him to believe that the air present in the blood-vessels in some cases of profuse hæmorrhage is atmospheric air, and is derived from pulmonary absorption and not from a direct admission into the divided vessels. He has not however made any series of experiments on the subject.

The important researches of M. Magnus|| having proved that the carbonic acid exhaled during expiration exists

already formed in the venous blood, and is not developed in the lungs, will naturally lead us to suspect that the air occasionally found in the heart and blood-vessels may consist, more or less entirely, of this gas.

The determination however of this point is still *sub judice*.

Whatever be the nature of the gaseous fluid, and from whatever cause its development and extrication in the blood may proceed, we may be quite assured of the fact, that whenever it does take place, death is induced almost as rapidly as in the cases in which the air is admitted into the veins during some surgical operations.

Most authors seem to agree that the immediate cause of death in both sorts of cases is owing to a sudden interruption of the circulation, in consequence of the forcible distention of the parietes of the ventricles of the heart.

Bichat indeed, and more recently M. Leroy also, attributed the fatal influence partly to the noxious influence of the air within the cerebral blood-vessels on the brain; but this explanation is of very questionable truth.—*Archives Generales*.

M. VELPEAU ON THE ACCIDENTAL INTRODUCTION OF AIR INTO THE VEINS.

In the Foreign Periscope of our last number, when treating of the report of M. Bouillaud on M. Amussat's memoir on the above subject, we intimated our intention of giving a condensed statement of M. Velpeau's sentiments, as expressed in a long and very elaborate letter, which he has addressed to the editor of the *Gazette Medicale*.

He remarks:—"Long before the attention of pathologists had been directed to the occasional introduction of the external air into divided veins, cases of sudden death during certain operations were well known to all experienced surgeons. The accident was attributed sometimes to the loss of blood, at other times to exhaustion from the severe pain, or to syncope, fright, &c. In my

* Mem. de l'Acad. des Sciences, 1707.

† Recherches physiol. sur la vie et la mort.

‡ Dissertation sur un nouveau genre de pneumatose qui se developpe à la suite des hæmorrhagies. Paris, 1832.

|| Memoire sur les gaz continus dans le sang, et sur la theorie de la respiration.—*Journal de Chimie*, Nov. 1837.

own practice, I have known patients to expire during the attempts of a surgeon to extirpate a diseased thyroid gland, or a large tumor from the axilla, and also immediately after the performance of tracheotomy, when the death was unhesitatingly referred to one of the causes, now mentioned. But, of late years, much stress has been laid on the introduction of the external air into some of the divided veins, and its consequent admission to the heart, as one of the most frequent and rapidly-fatal causes of such an accident. I have carefully collected the reports of all the cases which have been published as instances of this occurrence in the various journals, domestic and foreign, for the purpose of comparing them together, and of examining the accuracy of the conclusions which have been drawn from them. They amount in number to *forty*."

(A short detail of each is given in M. Velpeau's memoir, and the source from which each report is derived. We cannot afford space to extract the particulars, and shall therefore content ourselves with giving the general conclusions which he has drawn from their examination.)

M. Velpeau does not hesitate to state that several (4) of these cases are quite unsatisfactory, and cannot fairly be adduced as examples of the accident. He therefore dismisses them at once from consideration.

In *fifteen* other cases, the patients recovered more or less quickly from the presumed accident. Some of these cases too are of very questionable accuracy. The external jugular vein only was wounded in four of them; and in other two, the mammary veins only were divided. Perhaps therefore we cannot recognise more than *seven* cases in all of this group, as being probable or possible examples of the accident in question.

In the *third* group—containing such cases as proved fatal, but in which no post-mortem examination took place—we find six cases in all. They are recorded by Messrs. Warren, Clemot, Barlow, Goulard, Klein, and Maugué's.

In these six cases we observe that, in

M. Clemot's case, the wounded vein was not accurately determined; in Mr. Barlow's it was the internal jugular; in M. Klein's it was the thyroid plexus; in M. Goulard's it was the axillary, and in Mr. Warren's it was the subscapular. The median vein in the fold of the arm was the only one wounded in M. Maugué's operation.

The *fourth* group comprises such cases as proved fatal, and in which an examination took place after death. They amount in all to seven; and are recorded by MM. Piedagnel, Dupuytren, Delpech, Castara, Ulrich, Roux, and Pategnat. We must however, exclude the case related by the last-named gentleman, as the details which he gives are quite unsatisfactory, and rest on the authority of another person.

In the cases of MM. Piedagnel and Dupuytren, it would seem that the divided vein, by which the air entered, was the external jugular.

In those, which occurred to MM. Roux and Delpech, it was the axillary vein, the operation in both cases being amputation of the shoulder-joint; in Mr. Warren's and M. Castara's cases, it was the subscapular vein; and in M. Ulrich's case it was the internal jugular.

If we now examine, says M. Velpeau, the particulars of these cases which have occurred in the human subject, and compare them with the results of the experiments which have been made on lower animals, and wherein they have died by the artificial introduction of air into the veins, we are forced to infer either that these experiments are incomplete and delusive, or that the cases, alleged to have occurred in the human subject, are unsatisfactory and inconclusive.

It was found that on all occasions a considerable quantity of air was required to kill a dog; that the introduction of the air happened only when a large opening was made in either the internal jugular, the subclavian, or the axillary vein; and that, when the animal died, the heart was always found distended with a frothy fluid, consisting evidently of blood and bubbles of air.

On the other hand, in several of the

cases, related as examples of the accident in the human subject, the divided veins were the mammary, the subscapular, the external jugular, or even the facial. In not a few of the cases, the opening in the vein was very small, and the quantity of air admitted must have been very inconsiderable. And lastly, in no post-mortem examination have the same appearances been detected in the human subject, as in the lower animals, which have been the subjects of the experiments.

I would not however have it to be inferred from these remarks that I am of opinion that death from the introduction of the external air into the veins has never occurred in the human subject. All that I am contending for is, that such an occurrence has never been *incontrovertibly proved or demonstrated*.

In several of the cases alluded to above, it is exceedingly probable that it did happen, and that it was in fact the cause of the death of the patient; and in perhaps three or four (including the one recorded by M. Dupuytren) we should say that it did *really* take place. Still, however, we require further data to set the question at rest. Even in M. Dupuytren's case—which on the whole is perhaps the most conclusive—a very few bubbles only of air were found in the heart, upon dissection. But it is to be remembered that a much less serious lesion may prove fatal to the human subject, than to any of the lower animals. The operation of fear, alarm, and mental excitement must necessarily have a very considerable influence on the one, while the other is almost quite exempt from such agency or influence.

In conclusion, we may state that, while we regard the admission of air into the veins during certain operations as a very probable cause of the sudden death, which sometimes happens; science requires more numerous and accurate data on the subject, before we can with confidence draw any fixed conclusions.—*Gazette Medicale*.

QUESTION OF THE LIFE AND VIABILITY OF AN INFANT, CONSIDERED MEDICALLY AND JUDICIALLY. By M. MARC.

On the 28th of April, 1834, a lady who was presumed to be in the eighth month of pregnancy, was suddenly seized with convulsions, which rapidly proved fatal.

Within a short time *pue de tems* after dissolution, the Cæsarian operation was performed, and the child was extracted.

The question, that came to be disputed, was whether this infant was alive and therefore capable of inheriting its mother's property, or whether it was dead, at the moment of extraction.

The exhumation and inspection of the child were not made till a month after the period alluded to.

The tribunal consulted MM. Marjolin, Roux and Marc—three of the ablest practical men in Paris—and by them the following report of their opinion was returned

It may be well, however, to premise a few short particulars derived from the evidence of the different witnesses examined on the trial.

The surgeon, who performed the operation of extracting the child, stated, that he was called into consultation with Dr. Brunard, the physician in attendance, on the 28th of April, at noon; that he remained with her till about two o'clock, and then left; that the patient was then in extreme danger from violent cerebral convulsions; that he was resummoned about four o'clock, but that he did not reach the house till nearly a quarter of an hour after the lady had died; that he immediately, while the corpse was still warm, proceeded to extract the child by the Cæsarian operation; that he distinctly remarked by the elevation of the parietes of the thorax that it, the child, breathed, although the respiration was certainly very feeble; that he noticed also well marked pulsations in the umbilical cord, both before and after it was divided; and moreover, that he was able to distinguish the beats of the heart, when he laid his hand on the left side of the child's chest. He also deposed that...

child, when put into a warm-bath moved its right arm towards its head, and made one effort at inspiration.—The period, during which he was of opinion that life continued, was about five minutes. There was no external lesion or malformation on the body of the infant, and its size indicated that it was probably eight months old.

The next witness, a woman who was present when the lady died, gave similar testimony to that of the surgeon, confirming it in all the essential particulars. It is right to state, that the infant was immediately baptised on being taken from the uterus, as the attendants were all of opinion that life was present.

The evidence contradictory of the preceding statements, was as follows.

M. Brunard, a physician, deposed that he was summoned to the assistance of Mad. Gallois, the deceased, at four o'clock in the morning of the day on which she died, and that he remained with her till eleven o'clock of the forenoon. He stated that he had not assisted at the extraction of the child, so that he could not say whether it exhibited any signs of life; but that he had been strongly impressed with the idea during his attendance that the child was dead, before the mother ceased to live. He was of opinion that pregnancy had not advanced beyond the sixth month.

Another witness deposed that he was present in the room, when the infant was put into the warm-bath, but that he could not perceive any signs of vitality in it.

We have already mentioned that the examination of the body of the infant did not take place till 31 days after the date of the delivery. It is unnecessary to dwell upon the particulars of the dissection. Suffice it to say, that one lung sunk immediately in water, and that the other one only partially floated.

The *hydrostatic test* seemed to be therefore unfavourable to the idea that respiration had ever been fairly established.

We come now to state briefly the written opinions of the leading authorities in Paris, who were consulted on

this important case. The first was M. Velpeau.

After briefly recapitulating the most prominent facts deposed to by M. Cabaret the surgeon, and alluding particularly to the circumstance of the circulation in the cord being still quite distinct after extraction, he at once concludes that *the child was certainly not dead*. He admitted however that the question as to respiration having ever been established cannot be easily determined. The mere circumstance of the lungs being not uniformly buoyant, should not, he thinks, influence us at once in giving an answer in the negative; as an *incomplete inspiration*—especially in an infant prematurely born—*does not always introduce, or does not always leave, a sufficient quantity of air into the pulmonary canals and cells, to render these organs natant*.

He was therefore of opinion that the child was born *viable*, (capable of life,) and alive; and the only point on which he was at all doubtful, was as to the act of respiration having ever taken place.

The next authority is M. Orfila, the distinguished professor of legal medicine in Paris. He arrived at very different conclusions from those laid down by M. Velpeau. He was satisfied, he said, that true respiration had never been fairly established; and his opinion on this point was confirmed by the very circumstance of the circulation through the umbilical cord having been so distinct, as M. Cabaret the surgeon stated it to have been; for, continues he, we well know that whenever a new-born infant begins to breathe freely, the pulsations in the cord speedily become more and more indistinct. Everything therefore, he adds, leads me to believe that respiration was never truly established, and that the pulsations of the cord are to be regarded as depending on the remains of intra-uterine life.

Baron Dubois agreed with M. Orfila in the view which he took of this case. His *consultation* is so brief and precise, that we shall give it in full.

"I have carefully perused all the documents on this important question, and I have particularly examined with

the greatest attention the evidence of the professional witnesses. I do not consider that it is at all necessary for me to recapitulate the conflicting opinions, and the contradictory statements in the different papers submitted to my inspection. It is sufficient to affirm that my conscience leads me to express the following conviction; that the child of Madame Gallois was not borne *alive*, according to the meaning of our laws (*n'a pas vecu, selon le vœu de la loi*); for it did not breathe; and in fact the pulsations of the heart and of the umbilical cord exist (*ont lieu*) in the belly of the mother, and yet the infant does not enter into civil life, until it has breathed."

The same sentiments are expressed in the written opinion of Dr. Pelletan, as follow:—"In truth, neither the pulsations of the heart, nor those of the umbilical cord are sufficient to prove that an infant has *lived*, as the law requires, that is to say, has *breathed*; for these pulsations exist during intra-uterine life, and yet the child is not deemed to be *alive*, according to the meaning of the law.

The simple affirmation of M. Cabaret, the surgeon, that he observed the chest of the infant to heave up once or twice, cannot be admitted as a sufficient proof that respiration had actually taken place; and then the state of the lungs found on dissection, seems to point to the same conclusion. On the whole, I am satisfied that the child in question '*n'a pas vecu de la vie civile.*'"

Two other physicians, MM. Guilbert and Auvity, expressed their entire assent to these opinions of Dubois and Pelletan.

The report of the three Commissioners, MM. Roux, Marjolin, and Marc, is very elaborate, touching upon all the points at issue, and examining with great minuteness, the depositions of each witness, more particularly the statements of M. Cabaret.

The conclusions to which they arrived are:

That the infant, extracted by the Cæsarian operation from the patient Madame Gallois, was between seven and eight months old; that it was not

alive (*n'a pas vecu*); but that it was *viable*, or capable of supporting life, seeing that there was no malformation or disease in any part.—*Annales d'Hygiène publique*

CASES FROM THE CLINIQUE OF M. BOUILLAUD, WITH REMARKS.

Pulmonary Emphysema

In the ward of St. Jean de Dieu, at La Charité Hospital, there was, a few weeks ago, an old man affected with a chronic bronchitis, complicated with pulmonary emphysema, and with induration of the valves of the heart. For many years he had been subject to a troublesome catarrh; and when admitted into the hospital, his case exhibited all those features, which would have in former days been said to indicate a case of genuine asthma, but which now—thanks to auscultation—are known to be connected with certain definite pathological states of the lungs and the central organs of circulation. If, in such a case, the physician was to limit his examination to the respiratory organs, he would unquestionably be led into error; he would suppose that the disease was simply pulmonary emphysema, from the almost general vaulting or expansion of the chest, the loud resonance of every part on percussion, and the presence of a snoring noise (*bruit ronflant*) blending itself, at intervals, with a feeble vesicular murmur.

Such a diagnosis, correct as far as it goes, would however indicate a part only of the actual disease present.

In truth, pulmonary emphysema is very rarely met with alone and unconnected with any other affection of the lungs, or of the heart. It is a very frequent complication and co-existing disease; but seldom one which is met with by itself.

In examining the precordial region in the present patient, we at once discovered indubitable signs of a lesion of the heart. Its impulse was perceptible over a wider space than in health, and its *bruits*, especially over the left cavities, were unusually rough and accom-

panied with a blowing sound. There was therefore every reason to suspect the existence of valvular disease of the heart, probably of the semi-lunar valves of the aorta, and of the mitral valve also.

The treatment of such a case does not admit of very active practice. The view of the judicious physician is rather to prevent, as far as he can, the aggravation of the symptoms, than vainly to strive to remove those already existing. The occasional detraction of small quantities of blood from the cardiac region, by means either of leeches or of the cupping-glasses, very generally mitigates the dyspnœa and precordial uneasiness.

If depletion is inadvisable, the formation of slight issues with the caustic potass—not larger than a shilling or half-crown piece, and only so deep as to affect the dermis—is often very useful.

As to internal remedies, the best are perhaps light vegetable bitters, with the addition of a few grains of carbonate of ammonia, and of some preparation of squills. More good will be effected by regulating the functions of the digestive organs, than by using any medicines which may be supposed to act more immediately on the organs of circulation and respiration.

Bronchitis.

The case at present in the hospital affords a good illustration of the good effects of M. Bouillaud's practice of bleeding *coup sur coup* in arresting inflammatory affections of the air-tubes. There were present all the physical and physiological signs of a very extensive capillary bronchitis, complicated with a peripneumonic engorgement of the base of both lungs. The disease had lasted nearly three weeks, at the date of the patient's admission: it was attributable to exposure to cold, while the surface was in a state of free perspiration. Bleeding from the arm to 14oz., and the application of the cupping-glasses, immediately afterwards, over the seat of the most active inflammation, were sufficient to arrest the progress of the disease.

(This case was an instance of the truth of a remark, which M. Bouillaud has frequently inculcated on his pupils, that inflammations of membranous tissues are more obstinate than those of parenchymatous parts.)

On the morrow, the sub-crepitant râle was scarcely perceptible, the respiratory murmur was much more pure, and the pulse had fallen from 100 to 84.

Angina.

It is well known that with death are often effaced a number of physical changes or lesions, the existence of which had been distinctly recognised during the life of the patient. Such facts indeed are not unfrequently appealed to in depreciation of pathological anatomy. The following case affords an example of the *fugacité* of certain organic diseases. An aged, and rather unhealthy man, was admitted into the hospital for a saturnine (arising from lead) affection; while there, he was seized with angina. The larynx and pharynx were evidently the seat of active inflammation: the only diagnostic symptom of the disease, which was not present, was an alteration of the voice. This peculiarity gave rise to the suspicion that the angina was of an œdematous character. As the patient's strength was very feeble, general bleeding was considered inadmissible. Twenty leeches were therefore applied to the throat; and even *cette faible perte de sang* had the effect of inducing such a state of syncope, that the patient never recovered from it, and he died in 36 hours afterwards.

On dissection, no traces of inflammation were discoverable either in the pharynx or larynx; and the only morbid appearances found were some sanguineous coagula or concretions, which filled the cavities of the heart. Were these coagula formed gradually during the syncope, which preceded the fatal issue? It seems very probable that they were. Another question may be asked, can we suppose that in the present case the angina was only apparent and illusory, because anatomy was silent as to its phenomena? This conjecture is quite inadmissible in the judg-

ment of those, who examined the case during the life of the patient; and we should remember that it is not at all more wonderful that the phenomena of mucous inflammation should be as evanescent after death, as those of erysipelas or of any other dermoid phlegmasia.

Articular Rheumatism.

"The duration of acute rheumatism is," says our author, "certainly the thing of all others in the world the least *vouée à la fatalité*, and the most under the control of remedial treatment." M. Bouillaud has most satisfactorily proved that the medium length of this disease, when treated with bleedings *coup sur coup*, is usually only from one to two weeks, whereas formerly it used to be from six to seven weeks.*

A man, 35 years of age, after exposure to wet and cold, was seized with pain and swelling of the feet, knees, and shoulders. He was twice bled from the arm, and also cupped freely within the first 24 hours after admission into the hospital. On the following day, the pains had almost completely ceased; and the subsequent convalescence was so rapid, that at the end of a week the patient wished to be discharged.—*La Lancette Française*.

SUBNITRATE OF BISMUTH IN GASTRALGIA.

This metallic salt has often been very indiscriminately employed in gastric

* We have repeatedly taken occasion to impugn the accuracy of this, as well as of other favourite doctrines of M. Bouillaud. Perhaps there is no disease more strictly *humoral*, or in other words more depending upon an abnormal state of the blood, than severe acute rheumatism.

The excessively fibrinous condition of this fluid is a remarkable feature of its pathology; and we feel satisfied that the main indication in the treatment of the disease is to correct this condition—an object rarely to be achieved in less than three or four weeks.—*Rev.*

affections, and has therefore, as might be expected, frequently disappointed the expectations of medical men.

The disease, in which it is especially useful, is idiopathic gastralgia, unconnected with inflammatory action, or with any organic lesion of the stomach.

The following cases may serve to direct the physician in his employment of this remedy.

Case 1. A literary man, 32 years of age, of a weak delicate constitution, and subject to hæmoptysis, was seized in the month of February with a general exhaustion and powerless, complete loss of appetite, nausea, and most uneasy distention of the epigastrium. The bowels were constipated; there were frequent alternate chills and flushings of heat over the body; and the sleep was generally restless and disturbed.

Four grains of the subnitrate of bismuth, night and morning, were prescribed. The dose was quickly increased to upwards of a scruple in 24 hours. No alleviation however of the gastric symptoms was obtained. The sulphate of quinine was therefore substituted, and the diet was made more generous and nourishing. An amendment rapidly followed and in the course of a short time the patient was restored to health.

(There is surely nothing remarkable in these details. The case was clearly one of common dyspepsia, and any of the tonic vegetable bitters would doubtless have benefited the symptoms.—There is no mention made of gastralgia existing at any time.—*Rev.*

Case 2. A workman had been suffering for five or six months from frequently-recurring attacks of cardialgia, which had resisted the employment of a multitude of remedies. The epigastrium was tender upon pressure; and even upon any sharp succussion of the body, as during sneezing, coughing, and so forth, the patient was often seized with a severe burning crampy pain in the region of the stomach. It was found however that friction, continued for some time, on this part rather abated than aggravated the uneasiness. The chief distress was experienced after tak-

ing food; for then the gastric cramps came on almost immediately, and were accompanied with a sense of burning, and of extreme distention.

The state of suffering continued for about ten or fifteen minutes; but was always renewed upon swallowing either solids or fluids. The case was regarded as one of severe gastralgia. All food was debarred, and the patient was enjoined to quench his thirst by sucking small pieces of ice. The use of the subnitrate of bismuth was also commenced, and continued for several days; but the stomach pains seemed rather to increase than to abate under this treatment. Warm bathing and minute doses of opiates were substituted, and under this regimen the attacks of pain were gradually suspended.

Remarks. In the preceding case, the subnitrate seemed to act as a direct irritant, and to increase the very symptom for the relief of which it was administered.

Indeed this salt appears to be not so well suited for those cases in which there is an extreme sensibility of the stomach, as when this viscus is subject to attacks of irregular crampy convulsion.

Whenever the paroxysms of gastralgia become excessively acute, it is necessary to have recourse to opium. The subnitrate of bismuth is most serviceable when the gastralgia is chiefly of a spasmodic character, and the pain is not the most prominent, but one only of the secondary or super-added symptoms.

Case 3. Madame B., 42 years of age, whose nervous system had suffered much from severe chagrin and distress, had experienced four years ago a serious illness, the chief symptoms of which were a partial paraplegia, numbness and intermittent pains in the limbs, and a constant (aggravated however at intervals) state of delirious confusion of mind. Occasionally the patient recovered all her mental tranquillity and intelligence for a short time; but this state was soon succeeded by one of bewilderment and raving.

No. 74.

All these unpleasant symptoms were removed under the use of musk, camphor, and quinine.

A few months ago, Mad. B., after meeting with a troublesome wound, was seized with a shivering fit, accompanied with cramps in the limbs, excitation of the cerebrum, and with a most acute constrictive pain in the epigastric region.

M. Recamier was called into consultation. He quite agreed with the physician in attendance, that there was no organic disease existing, and attributed all the symptoms to a nervous disorder of the stomach. Mild antispasmodics, conjoined with the subnitrate of bismuth, were administered; and by persevering in the use of these remedies for a few days, the patient was entirely relieved from all her sufferings.

Before concluding these remarks, we may state that in several cases we have observed excellent effects from a combination of opium with the subnitrate of bismuth—the dose of each varying according to the predominance of nervous pain, or of muscular cramp.

In some instances too, the quinine may be very advantageously associated with the metallic salt.—*Bulletin General de Therapeutique.*

PRACTICAL OBSERVATIONS FROM THE GERMAN JOURNALS.

Hooping Cough.

Dr. Waldeck of Berlin has been very successful in abridging the duration of this troublesome complaint by means of small doses of belladonna. Its use may be commenced with a twelfth or tenth part of a grain. Whenever any febrile excitement of the system is induced, the medicine should be at once discontinued.

Dr. Joel strongly recommends the following formula, when the disease has reached the *stadium nervosum*, unattended with any complications, and when neither depletion, nor the use of emetics is judged advisable.

R. Extract. pulsat. nigræ.

Sulph. aurat. antimon. aa gr. iij.

Extract. Hyosciami, gr. vj.

Sacchar. lact.

Pulv. Gummi, āā ℥j.

M. in pulv. xij. divide.

One of these powders is to be given every four or six hours.

Ulcers on the Nipples, &c.

Dr. Boehm of Berlin has found great benefit from the employment of a desiccative powder—composed of one part of oxyde of zinc and one or two parts of powdered gum arabic—sprinkled upon these troublesome little sores. It forms a crust or thin cake over the ulcerated surface, which, being thus protected from all irritation, speedily heals.

Treatment of Thymic Asthma.

Dr. Hachman has contributed a very valuable paper on the history of this disease of infants to a late number of the *Hamburger Zeitschrift*.

He regards it as a purely spasmodic or nervous affection: and in its treatment avoids all very active and violent measures. In the first stage, the doctor recommends a powder composed of oxyde of zinc, ipecacuan, and the extract of the lactuca virosa, three or four times in the course of the twenty-four hours. To stout robust children he usually administers calomel at the same time.

When the digestive powers are weak, small doses of rhubarb and the carbonate of soda will be found useful.

If the patient be of a scrofulous habit, some preparation of steel, and a residence in a pure bracing atmosphere, will greatly facilitate the cure.

Chronic Vomiting.

A man, 58 years of age, had been distressed for upwards of two years with vomiting after every meal of food. The epigastric region was quite flaccid, and not at all tender upon pressure. Powders composed of camphor, cayenne pepper, charcoal, and canella, along with frictions over the stomach with turpentine, ammonia, and tincture of cantharides, effected a complete cure.

A man, 50 years of age, had been subject for several years to vomiting,

accompanied with pain in the epigastrium, the region of which was very hard to the touch, and exceedingly distended. The patient had become greatly emaciated.

The use of lime-water and extract of hemlock ultimately dissipated every unpleasant symptom.

A man, 58 years of age, had for a great length of time been distressed with frequent return of vomiting: there was no pain, but most annoying flatulence and obstinate constipation. He was ordered an aromatic bitter infusion, and minute doses of aloes. Under this treatment he quite recovered.

Nitrate of Silver in Gastralgia.

Dr. Steinitz has found this metallic salt successful in some severe and obstinate cases of this disease, which had resisted all the ordinary remedies, such as musk, castor, morphia, hydrocyanic acid, the preparations of zinc, bismuth, &c.

It may be stated, as a mark of very general truth, that metallic salts have a very marked effect upon all nervous affections, attended with high sensibility.

The excellent affects of the oxyde and sulphate of zinc in chorea, of steel in many cases of neuralgia, cupreous salts in spasmodic croup, &c. all tend to prove the correctness of this observation.*

CASES OF MALIGNANT PUSTULE IN MAN.

Several cattle on one farm died in the second week of last July, rather suddenly, and without the cause of their

* Our German friends seem to be not aware that the internal use of the nitrate of silver in certain cases of gastric suffering was first recommended by Dr. Johnson, the senior Editor of this Review.

It is an admirable remedy in allaying the morbid sensibility of the stomach in some forms of Dyspepsia.—*Rev.*

death being found out. The peasants in the neighbourhood, being either unaware of, or disregarding the fact, partook freely of the meat. A few days subsequently, most of these people were taken ill with flying pains through the bowels, vertigo, general lassitude, &c. Two men, who had assisted in skinning and cutting up the carcasses, were most seriously affected with feverish symptoms.

More of the cattle having died, attention was now paid to the state of their bodies.

At several places, especially around the neck, there were observed numerous subcutaneous watery tumors; and on opening the abdomen, the most remarkable appearance was the softened gangrenous state of the spleen, which viscus seemed to consist of a membranous bag, filled with a thick and dark-coloured blood.

No doubt could now exist as to the genuine *carbuncular* nature of the disease. M. Wagner (the author of these observations) gives it the name of gangrene of the spleen (*milz-brand*), from its most remarkable pathological character.

One of the two men, who were most severely affected, died on the 20th of the month, although he had, with great effort indeed, been able to go out on the preceding day. The symptoms during the last twenty four hours were excessive prostration, intense vomiting, coldness of the limbs and body, bloody diarrhœa, convulsions of the extremities—in short, most of the phenomena of aggravated cholera.

On the same day (20th) a woman, who had eaten of the meat, was effected with similar symptoms and died on the following day. A dark gangrenous-looking pustule was found on one of the thighs. In little more than twenty-four hours after death, the bodies of these persons were so thoroughly decomposed, that they were almost fluid; and no examination therefore could well take place.

On the 22nd and 23rd, nine other persons were affected in a similar, though less severe, manner. In all, the morbid phenomena were nearly alike:

the skin was dry, and the pulse small, feverish, and sometimes scarcely perceptible; there was a sense of an oppressive anxiety about the precordia, with nausea and tendency to vomiting. In most, carbuncles or anthrax-like tumors on different parts of the extremities and body were present; and although these were usually small, there was often experienced over a large space a feeling of great pain and intense burning.

The treatment pursued by M. Wagner was as follows. When there were no carbuncles, he contented himself by ordering poultices of linseed meal, bran, and vinegar to the epigastrium, the use of acid drinks, and a light spare diet. When however there were any carbuncles, the treatment was much more active. He made a crucial incision through each tumor, and cauterised it deeply with the caustic potash: the cauterisation was scarcely felt. The part was then covered with linseed poultices, and with powdered charcoal mixed with vinegar.

Internally he administered small doses of camphor, and a strong decoction of cinchona with the anodyne mineral drops of Hoffman.

All these patients, with the exception of one, an old woman who had a carbuncle on the thumb, were better on the following day.

In her the symptoms became more aggravated, although the tumor had been incised and well rubbed with the caustic. The whole arm was swollen and inflamed up to the shoulder; the fore-arm was covered with livid phlyctenæ; and these local symptoms were accompanied with fever, diarrhœa and extreme prostration of strength.

M. Wagner ordered a cataplasm of cream cheese (*cataplasme de fromage à la crème*) to the skin. Quite contrary to expectation, this old woman ultimately recovered, although the eschar was long of falling off and the sore was very tardy in healing.

Eight days after the seizure of the last mentioned patients, two other persons were taken ill: they, it seems, had not eaten of the meat; but they had handled the carcasses of the dead

bullocks. In both, some carbuncles made there appearance along the arms.

Ten days later, another fatal case of infection manifested itself. It occurred in one of the servants of the farm, to which the diseased cattle belonged. He had not only handled, but had also eaten of, the corrupted meat. Nevertheless he continued quite free from any symptoms of ill-health, for a full fortnight after the first breaking out of the disease. At length however he became affected with the usual train of phenomena, and, in addition to the constitutional disturbance, a large carbuncle appeared on the left fore-arm. On the second day he died.

M. Wagner made the following experiment. He melted some of the fat of one of the diseased bullocks, and gave it to two guinea-pigs, two dogs, and two cats. Every one of these animals died.

From his enquiries he is led to conclude that the carbuncular fever, or gangrenous splenitis, whether it be attended with pustules or not, is in all cases propagated either by the ingestion or the diseased meat, or by cutaneous absorption from handling it, and never by merely atmospheric miasms. Emetics in the first stage are generally useful, and afterwards cordial diaphoretic stimulants may be given with much advantage.—*Hufeland's Journal*.

ON THE PERNICIOUS EFFECTS OF CERTAIN COSMETICS.

The following cases will serve, in some degree, to prove what deleterious effects are sometimes produced by these much-vaunted remedies.

A gentleman, who deemed himself quite unfortunate from having red hair, being anxious to beautify himself by dying it black, had recourse to a preparation, which he had noticed was most highly recommended by some of the journals. The effect of the application was to induce an attack of erysipelas on the part, so severe that he was under medical treatment for a considerable time.

The dupe was determined to prose-

cute the tradesman; and, on the trial, MM. Chevalier and Marc were summoned to declare the composition of the cosmetic which had been sold. It was found to consist of 30 parts of oxyde of calcium, 2½ parts of oxyde of lead, and a minute trace of silica.

A gentleman had consulted his physician in consequence of troublesome colic and constipation to which he had been subject for some time. Certain circumstances led the physician to suspect that the abdominal symptoms might possibly be caused by a pomade, which his patient had been long in the habit of applying to his hands, for the purpose of making them delicately white! He requested M. Chevalier to analyze it. It was found to consist of 5 parts of cerate, and 3 of white carbonate of lead. The mere discontinuance of this cosmetic was sufficient to remove every unpleasant symptom.

Mademoiselle G. having read in one of the newspapers of the extraordinary effects of a certain application, Eau de Perse, in dying the hair of a black colour, purchased a phial of it for use. She was however much surprised to find that not only did those parts, to which the fluid was applied, become blackened, but also that various parts of her person acquired a similar discolouration.* M. Chevalier recommended to use first a solution of chloruret of sodium, and then one of ammonia, as a wash. The Eau de Perse was found upon analysis to consist of ten grains of nitrate of silver in an ounce of aromatic distilled water.

The fourth case was very similar to this one; but the symptoms were much more severe, in consequence of the

* Surely this must have been mere fancy; unless indeed some of the caustic liquor had been accidentally dropped upon the discoloured parts.

We cannot well believe that the application of the nitrate of silver to one part of the body should at all affect a remote part. The internal use of this salt is a very different thing; as, under such circumstances, it is no doubt absorbed into the system.

much greater strength of the caustic solution.

The tradesman, who had vended the cosmetic, was prosecuted by the King's Advocate, and *condamné* by the court.—*La Lancette Française*.

Remark. Most of our readers are probably aware that all the preparations sold to blacken the hair contain more or less of the nitrate of silver.

ON THE LATE PREVALENCE OF VARIOLA IN LONDON AND IN PARIS.

Our metropolitan readers are no doubt well aware that, during the last six or seven months, there has been an unusual prevalence of the variolous contagion in and around London; and the same has been found to be the case, we believe, in numerous districts of the country.

From a short article in a recent number of one of the French Medical journals, it seems that small-pox has existed to a very considerable extent in Paris also for some months past.

In almost every hospital numerous cases were observed; and in some of the districts or *arrondissements* of the metropolis, it appears to have been unusually fatal;—in one alone there was twenty-three deaths in the course of a month.

The disease was not confined to any particular age: but old people certainly were very rarely affected with the contagion.

Many of the patients had either been vaccinated, or had passed through the small-pox (we suppose from inoculation.)

In not a few instances was the disease of a confluent character; and some cases proved very rapidly fatal from the affection of the throat and chest.

The precursory symptoms were very generally severe pains in the limbs, alternations of chills and flushings of heat, intense headache, and irritability of the stomach.

The epigastric pain however—so much insisted upon by Sydenham as one of

the most pathognomonic premonitory signs of variola—was very frequently absent.

The eruption usually made its appearance on the second or third day; often it did not cease at this period, but continued with much severity, and became now complicated with a most troublesome angina. The inflammation of the throat and the congestion of the lungs were certainly the most troublesome and dangerous symptoms; and hence when these were at there *acmé*, the risk was the greatest.

In all the fortunate, although severe, cases, the pustules filled well, the face was enormously swollen, the fever was high, but the respiration, however uneasy, was not seriously distressed. On the other hand, in the fatal cases, the pustules remained low and imperfectly distended, the swelling of the features was often not great; but the breathing was much quickened from the beginning, and became more and more difficult, as the disease advanced.

A few cases proved very troublesome after the dessiccation of the pustules had taken place, in consequence of numerous boils and circumscribed abscesses making their appearance on different parts of the limbs and body.

With respect to the treatment which was found to be most useful in this epidemic of variola, the cautious employment of blood-letting in the very early stage of the disease was certainly beneficial. It seemed to facilitate the eruption of the pustules, and also to promote their maturation.

The use of the lancet however in variola always requires much discretion, as we must never forget what expenditure, so to speak, of vital energy Nature has to undergo in the subsequent stages of the disease. When we are at all doubtful as to its employment, it is better to trust to the administration of emetics and nauseants to reduce any excessive pyrexia, which may be present at the beginning of the disease.

When the eruption has fairly taken place, and provided there are no unpleasant local complications present, the best therapeutic rule is *laisser faire la Nature*.

The most critical period or stage of the disease is that of the suppuration of the pustules: the danger arising either from a deficiency of vital energy, or from a feverish excitement—often connected with some local mischief in the throat, lungs, &c. of the system. Certainly one of the most useful of remedies in this stage of variola is the application of blisters to the lower extremities—either to the thighs or to the legs. The exhibition of gentle aperients, with mild vegetable tonics, is generally useful towards the close of the disease.—*Bulletin Gen. de Therapeutique.*

HYSTERIA, SINGULAR CASE OF, IN WHICH THERE WAS A DISCHARGE OF THE URINE FROM THE UMBILICUS.

A young female, sixteen years of age was admitted in October 1836, into the hospital, to be treated for an affection of the spinal marrow.

She complained of headache, vertigo, great wakefulness, and extreme muscular weakness. The spinal column was tender on pressure at some points: and the scars of old issues were visible over the lumbar part of the back. She had a troublesome tickling cough, and shortness of breath upon any exertion. The abdomen was knotty, tympanitic, and tender; the umbilicus was much depressed, forming a sort of *cul de sac*, about an inch deep, from which exsuded a fluid, which stained the linen of a reddish colour, and left a thin coagulum or crust on drying. A similar fluid was discharged from the ears. No urine had been voided for thirty-six hours previous to her admission into the hospital; and only five or six ounces escaped by the catheter. The catamenia had been regular.

It appeared from the girl's report that, in the Spring of 1836, she had been seized with erratic pains in various parts of the body, and at length with a fixed uneasiness in the spine, accompanied with pulsations in the throat, and great difficulty of breathing. The bowels were exceedingly constipated;

and sometimes three or four days passed without more than a few ounces of urine being voided. A reddish-coloured fluid exsuded from the umbilicus, and from both ears; it had a distinctly urinous odour.

This state of things continued for some months. In the following August, she began to vomit a saltish, urine-smelling fluid; and on examination it proved to be urine. This strange phenomenon recurred several times, when there was a suppression of the secretion in the natural way.

In the following month, September, the exsudation from the umbilicus returned; and it continued up to the period of the report.

The catheter was ordered to be introduced every day; but very little urine was ever drawn off: it was always very high-coloured and even bloody. The urinary discharge from the umbilicus and also from the ears—amounting to about an ounce daily—continued regularly till the middle of December. During all this time, the girl suffered much from head-ache, vertigo, severe pains in the loins, paroxysms of dyspnoea, distention of the abdomen, &c. The catamenia were however regular.

Since the umbilicus ceased to exsude any fluid, the abdomen became much less tender.

In the following March, the urinous vomitings recommenced;—from 20 to 40 ounces were rejected in the course of the twenty-four hours. The results of a chemical analysis left no room for any doubt as to the genuine nature of the rejected fluid.

In the month of June, she left the hospital, improved in health in many respects; the urinous vomitings had in a great measure ceased, and the secretion had returned to its natural channels.

The seat of the spinal affection was over the 11th and 12th dorsal vertebrae.—*La Lancette Francaise.*

We believe that the preceding report has been transferred from one of the British medical journals,—probably the Edinburgh one—to the pages of our Continental cotemporary.

It had escaped our notice in the original. The reporter is Mr. Laycock.—
(Rev.)

ON THE THERAPEUTIC USES OF STRYCHNINE.

The following observations are from the pen of M. Bally, now one of the physicians (formerly of the Hôtel Dieu where his clinique used to be attended by a large number of students) of La Charité Hospital, and will therefore be received with deference.

Strychnine is an alkaloid, which is obtained from the *strychnos nux vomica*, and the *strychnos santi ignatii*—both of which belong to the natural order of the *apocynææ*. The latter of these plants is found to contain three times as much of the genuine alkaloid as the former; another alkaloid, however, the *brucine*, exists in larger quantity in the *nux vomica* than in the *strychnos sancti ignatii*.

M. Magendie had discovered, by the results of his experiments, that strychnine has a special or specific action on the spinal marrow. Such being the case, it was reasonable to predict that the use of it would be attended with numerous difficulties in all cases of cerebral hæmorrhage, and consequently in those forms of paralysis, which have their origin in such a cause. M. Bally speedily found the truth of this remark in practice.

Although the palsied muscles were affected with twichings, and, as it were electrical movements, no permanent advantage was ever obtained in such cases; and in not a few instances the cephalic symptoms were decidedly aggravated. Vertigo, noises in the ears, sleeplessness, and suffusion of the features—all indicated a manifest threatening of further mischief.

But such were not the effects in those palsies, which were dependent upon uncomplicated lesions of the spinal marrow. In an immense number of such cases the benefit, derived from the use of the strychnine, was decided and permanent.

These paraplegiæ, whether partial or complete, which are not dependent upon a deep-seated organic lesion—such as the actual separation of the nervous bundles of the medulla in consequence of *ramollissement*, a compression from a displacement of any of the vertebræ, or from the presence of any foreign body in the spinal canal, &c.—derive the most positive relief from the use of the strychnine.

Action of the Strychnine. We have already alluded to the marked influence of this most potent drug in determining a fulness of the cephalic vessels. It is of the greatest importance to attend to this circumstance, as we are satisfied from the results of an extended experience that its use is always attended with much risk in all diseases of the cerebrum.

Some practitioners have recommended the employment (internal) of strychnine in cases of amaurosis. M. Bally's experience does not confirm the justness of this praise. The external or endermic use of the alkaloid is more frequently successful in paralytic affections of the eye. As a matter of course, we cannot expect any advantage when the amaurosis is the result of any serious lesion of the retina, optic nerve, &c. Strychnine does not seem to exert any marked effect on the organs of digestion: there may be a certain degree of excitation follow its administration, but this, along with an intense bitter taste in the throat, is perhaps the only one.

Perhaps this is to be attributed to the very rapid absorption of the strychnine, and to the circumstance too of its action being altogether *specific* or *elective*.

If it sometimes acts on the urinary bladder, so as to remove paralytic weakness of this viscus, it is not by a direct, but by a *reflected* influence. The spinal marrow is in the first place excited, and this excitation is transmitted to the lumbar and sacral plexuses, and thence to the nerves of the pelvic viscera.

In the same manner are the stimulant effects of strychnine on the nerves of the upper and lower extremities to be explained.

One of the most decided signs of the agency of strychnine in such cases is the occurrence of partial convulsions, or crampy twitching of certain muscles. If its use be incautiously persevered in after the manifestation of these phenomena, a state of complete tetanus may be induced.

M. Bally says that, in some cases, the twichings or jerkings of the muscles have, in his practice, been so powerful that he has been obliged to have the patient tied down upon the bed, as it required two attendants constantly to restrain the violence of the *boundings*.

Fortunately these effects do not usually continue long: they commence soon after the ingestion of the medicine. It is of importance to be aware of these facts.

Few physicians have ever administered the strychnine against saturnine or lead colic; but it has been used with efficacy against those partial palsies of the limbs, which not unfrequently follow this disease. M. Bally however has in numerous cases of the primary affection had recourse to this potent alkaloid, when purgatives have failed in mitigating the symptoms.

In such cases he has been in the habit of combining the strychnine with the muriate of morphia—a grain of the former and half a grain of the latter made into 16 pills—from two to four or six to be given daily.

As a general rule for the internal administration of strychnine, we may state that we should commence with from a twentieth to a sixteenth part of a grain for a dose; and this quantity should not be increased more quickly than every six or seven days. It is rare that any patient can bear, even after a protracted use of the medicine, more than two or three grains in the course of twenty-four hours.—*Bulletin General de Therapeutique*.

RESULTS OF RE-VACCINATION IN SILESIA.

Dr. Aggens practiced re-vaccination on 962 persons, during the year 1836. The

operation succeeded perfectly in 822 of these cases: in 68, the pustules did not exhibit a mature or complete development; and in the remaining 72, no effect whatever was produced by the punctures.

In many cases, the regular and characteristic vaccine pustule made its appearance as early as the third, and had acquired its full size by the fifth or sixth day. In general, the author remarked a more decided reaction in the lymphatic system, than usually happens after a first vaccination. Often did the patient, in the course of two or three hours after the operation, begin to experience a smarting sensation along the arm and in the armpit of the affected side. During the period of suppuration, the arm not unfrequently swelled considerably, and the system became somewhat feverish. But the pustules resulting from re-vaccination never exhibited *cette belle coloration perlée* of those produced by the first operation: they were of a greyish hue. On the whole too, their progress was decidedly more rapid more especially in their last stage, or that of drying and desquamation. In some cases, in which no regular or characteristic pustules were formed, the punctures became nevertheless surrounded with an areola of inflammatory redness.—*Pfaffs Mittheilungen*.

RESULTS OF RE-VACCINATION IN THE PRUSSIAN ARMY, DURING 1836.

The entire number of persons re-vaccinated was 42,124. Of these, 32,635, exhibited the cicatrices of a former operation on their arms. In 6,543 persons, the cicatrices were unsatisfactory; and in 2,840 there were no traces at all of them.

In the re-vaccinations of this year, regular vaccine pustules or vesicles were formed in 18,136 instances; in 9,940, they were of irregular or imperfect development.

In 14,048 the operation failed in producing any effect; but on repeating it a second time, it took effect in 1,569 cases, and again failed in 8,205 cases.

The number of pustules induced varied from one to thirty in different individuals.

Among all the persons re-vaccinated during this and the preceding one or two years, 14 only were attacked with any of the forms of the prevalent varioloid disease; there was not, however, a single example of genuine small-pox met with, although the epidemic existed in the country.

The lymph employed was very generally taken from the arms of young children; and lymph that had become dry was always avoided.*

On comparing the results of re-vaccination during 1836, with those of preceding years, the reporter states that he is led to the conclusion that the disposition or tendency to contract a new cow-pox, (in other words, to be effected by re-vaccination), and consequently the liability to variola, seem to be increasing every year. Of 42,124 persons re-vaccinated in 1836, the operation succeeded perfectly in more than 18,000; whereas of 48,178 persons re-vaccinated in 1833, only 15,269 were affected; of 44,451 in 1834, only 16,679 were affected; and of 39,192 in 1835, only 15,315 were affected.—*Medicinishe Zeitung*.

TREATMENT OF DROPSY OF THE BURSAE MUCOSÆ, WITH IODINE.

This practice has of late years been followed with great success in the large Marine hospital at Toulon. Hygroma, or dropsy of the mucous bursæ adjacent to some of the large joints, is of frequent occurrence among men who

are engaged in fatiguing and laborious occupations.

The knee, and more especially the left one, is the joint most frequently affected. Perhaps the most common cause of the complaint is some slight external injury of the part, such as a blow, a fall, or long-continued pressure. The swelling usually appears at first over the centre of the patella, thence gradually extends on all sides, and, if permitted to increase, entirely covers at length the whole front of the joint.

It is only when the tumor has attained a very large size that the affection can be mistaken for *hydarthrosis*, or genuine dropsy of the articular cavity.

Hygroma consists in a distention of the bursæ mucosæ, either with a simple serosity, or, more rarely, with a sanguinolent fluid. When the swelling follows a contusion, its development is rapid, and the fluid, contained within, is usually more or less decidedly bloody: but this is not the most common progress of the disease. If the swelling has continued for a considerable time, the contents of the bursæ become more consistent, and in some cases almost semi-solid, with flocculi of albumen through it. The parietes also of the bag are apt, under these circumstances, to grow thicker and more firm and resisting.

M. Boyer, in treating of hygroma, says that he has almost always found the swelling, when recent, readily dispersed by the topical application of a solution of the muriate of ammonia—an ounce of the salt to a pint of water. The resolution is however generally very tardy.

The experience of other surgeons quite bears out the truth of the last statement. If the tumor has continued for any considerable length of time, the use of the muriate, as recommended by Boyer, will not suffice.

Various modes of treatment have been suggested in chronic cases; compression, incision, excision of part or whole of the cyst, puncture either alone, or followed by injection of the sac, &c., have been recommended by different writers. The frequency of the complaint in seamen, carpenters, &c. has

*Attention to these two particulars should be always paid in practising re-vaccination. The lymph should be taken from the arm of an infant, and it should be inserted before it has become dry. Our own experience had led us to the same conclusion, before we read this German communication.—(Rev.)

enabled M. Reynaud, the chief surgeon of the naval hospital at Toulon, to test the comparative value of various remedies.

He quite rejects the employment of mere unassisted compression. The treatment by making an incision into the sac, although more efficacious than that by compression, is however so objectionable that he at once discards it; and as for the excision or complete removal of the swelling, no surgeon would ever think of so severe a remedy, unless every other means had failed, and the parietes of the cyst had become exceedingly thickened and indurated.

Puncture, if followed by appropriate compression, is decidedly preferable to any of the preceding methods of cure.

It may be very properly had recourse to in all cases, where the use of iodine and of other resolvents has failed; but the surgeon should not premise a permanent cure even from puncture; as the effusion is apt to return, and a second operation will then be required.

M. Reynaud very properly condemns the practice of injecting a stimulant fluid into a bursal sac under any circumstances.

On the whole, the simplest, and in most cases, the most efficacious, remedy is friction with an ointment of the hydriodate of potassa—two drachms to an ounce of lard. This is to be used morning and evening; and after each friction, the joint should be covered with a linseed poultice.

Some few trials with the *ioduret of lead* seem to indicate that this preparation is more active than the *hydriodate of potassa*.

The average time required to dissipate the swelling is a fortnight or so.

The reporter adduces numerous cases in proof of the efficacy of the treatment now recommended. Several of these however were of very short standing; and hence we (the Rev.) do not attach much value to them, as it is well known that synovial swellings will often dissipate of themselves, when no remedies are employed. The most chronic case was one of six months' duration: the tumor had acquired the size of the fist; but it was speedily dissipated by fric-

tions with the iodine ointment.—*Bulletin General*.

Remark.—In old-standing cases unaccompanied with pain, we have repeatedly succeeded in causing the bursal swelling very quickly to disappear by striking it smartly with a book—till its parietes seemed to have given way—and then covering it with mercurial plaster spread upon leather.—*Rev.*

DROPSY OF THE JOINTS SUCCESSFULLY TREATED WITH EMETICS.

The following cases occurred in the hospital of the Hotel des Invalides under the care of M. Gimelle, who has the merit of having first established the efficacy of the treatment of articular dropsies by large doses of the tartrate of antimony, and who intends shortly to publish a treatise on the subject.

Case 1.—A soldier, 36 years of age, still suffering from the dregs of syphilis, had been seized with pains in his right knee, a fortnight after his admission into the hospital. The joint became swollen, hot, and excessively tender. In the course of a few days the sense of fluctuation was quite evident. For three weeks the case was treated with leeches, blisters, &c. and with antiphlogistic and emollient medicines; but the relief, thus obtained, was only very partial.

At this period the antimonial treatment was commenced; it was continued for eleven successive days, according to the following method. On the first day 4 grains were given; and this dose was daily raised by 2 grains each day, till the patient could tolerate 12 grains—which quantity was persevered in for three days.

It was observed that whenever the toleration of the medicine was induced (on the fourth day) the local affection of the knee began rapidly to subside. The cure was complete at the end of a fortnight. But now unfortunately the left knee began to be similarly attacked; a

similar plan of treatment was adopted, and with equal success.

Case 2.—This patient too was in the hospital for secondary syphilis. During his stay, he was affected with an inflammatory attack of the right elbow joint.

For the first ten days the case was treated in the usual method, with leeches, poultices, blisters, friction with iodine ointment, &c.; but without very decided relief. The antimonial medication was therefore substituted; and in the course of nine days all symptoms of the arthritis were dissipated. The daily dose had been gradually raised from four to 12 grains.

Case 3.—A soldier was received into the hospital of the Hôtel for a dropsical affection of one of his knee-joints.

The swelling was very great, but it was not accompanied with much pain. The fluctuation was quite distinct. The joint was freely leeches, and poulticed, and subsequently blistered; but it was not until the antimonial treatment was fairly commenced that any decided amendment was visible. From this period, the patient rapidly improved in every respect.

In the remarks, appended to the reports of the preceding three cases, we are informed that the antimonial treatment has been successfully used by M. Gimelle in upwards of twenty cases of articular dropsy; and that it is applicable equally to chronic and to acute cases of the disease. He has never raised the dose of the tartrate above 16 grains in the 24 hours; nor has he ever continued its administration beyond 17 or 18 days.

It was always much more speedily and much more certainly efficacious, when it (the tartrate) was well *tolerated*, *i. e.* did not produce much vomiting or purging. In most cases these disagreeable effects continue for two or three days; but then they subside and are followed by profuse perspirations and pyalism. Occasionally the treatment seemed to cause a feverish excitement of the whole system for a short time.—*La Lancette Francaise.*

M. VELPEAU ON THE TREATMENT OF BLEPHARITIS.

M. Velpeau recognises four species of the disease—the mucous, the glandular, the granular, and lastly that form, which occurs in new-born infants.

1. *Mucous Blepharitis*

Decidedly the best remedies for this form of the disease are local astringents. Of these the nitrate of silver, the sulphate of zinc, and the sulphate of copper in collyria are to be preferred to all others. On the whole, the first of these is the most efficacious, and trustworthy; and therefore of late years M. Velpeau has had recourse to it in almost all cases. He usually commences its use by ordering from a half to an entire grain to one ounce of distilled water: the dose is to be gradually increased to six, or even ten grains.

A few drops of the solution are to be dropped into the affected eye, two or three times in the course of the day. The finger should then be pressed upon the eye-ball, and the patient bid to move it about freely, so that the solution reach every part. This practice is to be repeated regularly for four or five days; and it may then be omitted for two days or so, before it is resumed. It is usually during the interval of repose that the amendment is most obvious. By persevering in the treatment now recommended, for two or three weeks, a cure may very generally be effected.

Whenever there is headache, flushing of the face, or any symptoms of fulness of blood about the head or eye, the use of antiphlogistic measures is, as a matter of course, to be resorted to.

2. *Glandular Blepharitis.*

In this form, astringent pommades are to be preferred to collyria; as the former remain longer in contact with the diseased surface than the latter. The *Pommade de Janin*, (this contains, we believe, the red oxide of mercury, *Rev.*) or an ointment prepared with the white precipitate, or with the nitrate of silver, is perhaps the most efficacious formula, that can be adopted. It is not however indifferent which ointment

is to be used in each case. M. Velpeau says that, from multiplied experience, he has been led to the following conclusions respecting their comparative efficacy.

If the glandular blepharitis assumes at all the *diphtheritic* form, he prefers the *white precipitate* ointment (ʒj. to ʒj. of lard); if there be excoriations on the free edges of the eye-lids, the ointment of the *nitras argenti* is the best; and lastly, when the excoriations are more considerable and deeper than usual, the use of the solid nitrate, applied directly to the part, is more efficacious than any ointment,

In the treatment of this form of blepharitis, we should never expect a very rapid cure; it is almost always very obstinate and tedious, whatever treatment is adopted. Hence the prudent surgeon will be cautious in not promising a very speedy amendment.

3. *Granular Blepharitis*

This is unquestionably the most perverse and intractable form of the disease.

Collyria, of all kinds and degrees of strength, are generally of no decided or permanent utility; and hence they are never to be trusted to. The various eye-ointments, which are so useful in many ophthalmic diseases, are in very many cases equally inefficacious.

In 1837, (M. Velpeau) began to use the solid nitrate of silver as a local application to the diseased surface. The first case was a very obstinate one, having lasted for several months at the date when it came under my care. The upper eye-lid was chiefly affected; its conjunctival lining was much thickened and covered with fungosities and granulations.

I applied a stick of the nitrate of silver lightly over the diseased membrane: the application was renewed several times after the interval of five or six days. The cure in this instance was complete.

But let it not be supposed that this treatment will prove equally efficacious in all instances. M. Velpeau confesses that, often in his own practice, it has quite failed of giving permanent relief.

The sulphates of copper and of iron may be used in the same manner: and in some instances they have been found of marked utility, when the nitrate had failed.

4. *Blepharitis of New-born Infants.*

This form of the disease is perhaps the most serious and alarming of all. In some cases the destruction of the tissues of the eye is so rapid in its progress, that no remedial means have any power in arresting it. Generally however an appropriate treatment, provided it is instituted at an early stage of the disease, will speedily effect a cure.

On the whole, we should trust rather to topical, than to constitutional remedies. The latter indeed are not to be neglected; but, *alone*, they will not suffice.

The most potent of all local remedies is unquestionably the nitrate of silver, either in solution, or, what is usually more efficacious, applied in the solid form to the inflamed mucous membrane.—*L' Experience.*

CASE OF PHLEBITIS AFTER VENÆ-SECTION, WITH REMARKS BY M. BLANDIN.

A young girl, 18 years of age, was admitted into the Hôtel Dieu for chlorosis and amenorrhœa. Symptoms of pelvic irritation having come on, she was bled from the arm. On the third day after the venæsection, she began to complain of uneasiness and pain in the seat of the puncture, which was found to be gaping, with its edges somewhat everted. When pressure was made along the line of the cephalic vein, the patient felt pain, and the vessel was hard and tense, for about two inches upwards, to the touch.

Thirty leeches were immediately applied to the seat of injury; but the tension and uneasiness along the *trajet* of the vein were rather increased than abated towards the evening, and the wound now discharged a purulent matter: forty leeches more were therefore ordered.

On the following day, the whole arm was exquisitely painful, and even the fore-arm began to be tender and swollen, more especially along the course of the veins. In the evening, the patient had a decided shivering fit,—indicating the commencement of a purulent infection of the system. The arm was again very freely leeches, and the patient confined to refrigerants and low diet. Next day the arm itself was rather easier; but the axilla and fore-arm were excessively painful, and even the palmar veins seemed to be involved in the inflammatory disease: the hand was œdematous and somewhat benumbed. Thirty leeches were applied night and morning, over the parts of the extremity, which were most sensitive.

At this period, M. Blandin was requested to see the patient, who had been hitherto under the care of M. Husson, one of the physicians of the hospital. The same mode of treatment was persevered in; other forty leeches being ordered to be applied. Fortunately this was the last time that any more depletion was found necessary, as the symptoms now began to abate. In all, 250 leeches were applied, in the course of between four and five days, to a patient, who was previously in a state of great debility. The extremity remained still much swollen from œdema, and, what was much more serious, symptoms of pleurisy and of pleuritic effusion on the right side began to manifest themselves.

Notwithstanding the preceding illness, the patient was bled twice from the arm, and a number of leeches was applied over the seat of the thoracic pain, with the happy result of checking the disease. The patient remained for a length of time exceedingly reduced; but ultimately she quite recovered her general health and the free use of the affected arm.

M. Blandin, in his comments on the preceding case, alludes to the apprehensions which he had of its issue, especially when the symptoms of pleurisy made their appearance. Every pathologist knows that whenever the system becomes infected with purulent absorb-

tion, there is a remarkable tendency to local inflammations in some of the internal viscera, and more frequently in the lungs and liver than in perhaps any others.

In the present case, M. Blandin was of opinion that the pleurisy was the result or consequence of a metastatic abscess at the base of the lung.

Pathologists have differed in their ideas as to the early changes, which an inflamed vein undergoes. M. Cruveilhier is of opinion that, as soon as a vein is fairly inflamed, the circulation through it ceases, that a clot is then formed within, and that, when supuration ensues, this clot or coagulum is more or less completely dissolved in the purulent matter.

MM. Gendrin and Tessier agree so far with M. Cruveilhier in believing that the circulation of the blood is arrested in an inflamed vein, and that a clot is formed in consequence within its cavity; but they suppose that the pus is not secreted from the lining membrane of the inflamed vessel, but that the coagulum itself suppurates. All this, however seems to be mere conjecture; and M. Blandin alludes to a case, which occurred in his practice at the Hospital Beaujon some years ago. It was that of a man, who was bled in the median bastile vein for a fracture of the ribs. Phlebitis supervened; and the patient died before pus had time to form.

On dissection, neither pus nor blood was found within the vein; but the vessel was observed to be strongly contracted upon itself. When however the system exhibits the system of purulent infection—such as frequent shiverings and typhoid depression—we believe that pus has, perhaps, invariably been absorbed into the mass of circulating fluid, especially if the phlebitis has been of traumatic, and not of spontaneous, origin. In the latter case, the progress of the morbid changes is more gradual and slow than when the accident has followed upon a wound of a vein; the circulation is only gradually arrested, in consequence of the obstacle to its free course from the layers of lymph, deposited upon the inner surface of the inflamed vessel, becoming greater and

greater, in proportion as the quantity of this lymph increases. Such is the pathology of the *phlegmasia alba dolens*. The absorption therefore of pus into the mass of blood is not so direct and easy in spontaneous phlebitis, as in that form which supervenes upon an injury of a vein; and hence the progress in the former case is perhaps not altogether so serious as the latter,

M. Blandin explains the occurrence of the local or circumscribed visceral inflammations, which so frequently occur during the course of phlebitis, in the following manner. The blood modified in its character by the admixture of pus with it, is much thinner and less readily coagulable than in a state of health. Hence there is a tendency to its exuding from the vessels. If this exudation occurs from the cutaneous veins, ecchymoses are formed, such as we observe in the progress of typhus and other malignant fevers; but if the viscera are the seat of the exudation, the effused blood acts like a foreign body and gives rise to a subacute inflammatory action, which is local and circumscribed from its existing cause being limited to a spot. These exudations generally take place on the surface of the viscera; and hence it is that the secondary abscesses, which we meet with in the liver, lungs, &c. in cases of fatal phlebitis, are usually superficial and not deep-seated in the parenchyma of the organs affected.

These circumscribed deposits commence by a small brown-coloured spot or stain, which gradually extends and excites an inflammatory action around; and this occurs the more readily that there is evidently something *septic* in the effused or extravasated fluid, which hurries on, it would seem, the inflammatory to suppurative stage.

From the preceding remarks it will be seen that we (M. Blandin) do not agree with those pathologists, who suppose that the internal or secondary abscesses in cases of phlebitis are the result of purulent matter being actually transported to, and deposited in, the parts affected. We have only to examine the parts at different stages of the lesion, to satisfy ourselves that this

doctrine must be incorrect. At first we perceive only a darkish-coloured ecchymosed spot; this spot gradually becomes of a deeper colour and more extended; the affected tissue is found to be much more friable than before; the centre of the spot passes gradually to a lighter-coloured greyish hue, and becomes softer and softer, until at length the disorganization, arising from the suppurative process, is fairly established.

The lungs are the organs most frequently affected with these secondary abscesses, and the right lung more frequently than the left one; then the liver, the spleen, the brain, subcutaneous and sub-aponeurotic cellular tissue, and lastly the kidneys and muscles.

The synovial and serous membrane are occasionally, although more rarely, involved in the inflammatory action.

The treatment of phlebitis, and especially of the traumatic form, requires the most energetic depletory measures in its early stage.—*La Lancette Française*.

M. CHOMEL ON TARTAR EMETIC IN PNEUMONIA.

This eminently practical physician of the Hôtel Dieu has not, it seems, so high an opinion of the tartar emetic practice in controlling thoracic inflammation, as many of his professional brethren in Paris. He frequently uses it; but only as a subsidiary remedy, after a decided impression has been made on the disease by blood-letting. With respect to its having any directly antiphlogistic or contra-stimulant properties independently of the depression induced by nausea and by evacuation, M. Chomel professes himself to be very sceptical; and hence, of late years he has discontinued the common usage of combining opium with it, for the purpose of inducing a *tolerance* of the antimonial. According to his views, its action is to be referred to an energetic revulsion upon the alimentary tube, and to the powerful compression of the lungs during the efforts of vomiting, aided by the nausea which precedes and follows these efforts.

The antimonial will always be found of most efficacy, when the first violence of the inflammatory attack is arrested, and when the disease indicates a tendency to remission or abatement.

Alluding to the excellent effects of intestinal derivation upon all thoracic inflammations, M. Chomel takes the opportunity of strongly recommending castor oil as the safest and one of the most effectual purgatives, which can be used for this purpose.—*La Lancette Francaise*.

ON PARALYSIS IN THE INSANE.

(From a Memoir to which the Prize was awarded by the Societé d'Emulation.)

M. Bayle, in 1822, was the first who particularly described this very frequent complication of insanity. He attributed it to a chronic inflammation of the membranes of the brain.

It must be confessed, however, that this opinion as to its cause is perhaps as much to be traced to a rational conjecture, as to the results of actual observation; for, in not a few cases, no traces of meningitis can be any where discovered. M. Calmeil, although a decided anato-mo-pathologist, has therefore, in his work *De la Paralyse considérée chez les Alienés*, carefully avoided giving any express opinion on this subject. In the present state of our knowledge, it will be wise to follow his example.

Paralysis, in some form or another, is of very frequent occurrence amongst the insane. Whoever has frequently visited lunatic establishments cannot fail to have observed the number of the unfortunate inmates, who are afflicted with some lesion of motion in one part or another of the body.

Many, for example, are noticed to stammer in speaking; others incline over more to one side than to another in walking; a third set are paralyzed in their upper or in their lower extremities; and lastly, a few are found to have lost all feeling and mobility on one entire side of their bodies.

These various forms and degrees of palsy are very generally found to be connected with some organic lesion of the nervous centres, such as ramollissement or induration of their structure, abscesses, effusions of serosity, tubercles, and lastly, we may mention tumors and other diseases of the inner table of the cranium itself.

The symptoms of general palsy in the insane may be described as follow.

The earliest symptom is generally a stammering or some confusion of speech. The invalid cannot pronounce certain words, or he hesitates and falters before pronouncing them. As yet, perhaps, there is no visible disturbance of the muscles of the face; and if the patient be ordered to put his tongue out, no irregularity or deviation in its movements can be detected. The practised physician however will often be able to detect some faint signs of incipient paralysis, which altogether escape the attention of the less experienced.

The prognosis of insanity is always much less favorable when any form of paralysis has made its appearance, than it may have been previously.

As the confusion in the speech increases, the irregularity or immobility of certain muscles of the face becomes more obvious and decided: the looks acquire a dull and heavy expression; the arms lose much of their former strength and energy, and at length the lower limbs also indicate an increasing feebleness and want of steady support. We have said that the upper extremities are usually affected before the lower. Now this statement may seem to be contradicted by the experience of many excellent authors, who in their writings allude to the instability and tottering gait of patients, during the earlier stages of general paralysis, while the arms retain their normal power.

Medical men are, however, apt to be somewhat deceived upon this point, from forgetting that the lower limbs have the weight of all the body to support, and will therefore announce at once any weakness or want of energy, while, all the time, the upper extremities, although quite as much enfeebled,

will not manifest any loss of power. M. Calmeil very justly reminds us that, in order to judge accurately of the relative condition of the upper and of the lower limbs in cases of incipient paralysis, we ought to examine the patient when in the horizontal position, and notice the freedom and vigour of movement of the legs, when relieved from the superincumbent weight of the body.

M. Lallemand, in his admirable letters on the diseases of the encephalon, has alluded to the same view of the subject in these words: 'In conclusion, the incomplete general paralysis of the insane *appears to commence* in the pelvic extremities, because the slightest weakening of these members is more readily observed, in consequence of the force required for the exercise of their functions.'

M. Rodrigues, the author of the present observations, is inclined to believe, from the result of his own observations in the lunatic hospital at Montpellier, that, in the general paralysis of the insane, the arms are usually more affected with weakness than the lower extremities. He alludes more particularly to the case of a female patient, who could not carry her hand to her mouth, although she continued to walk perfectly well.

Second Stage.—The speech has become more embarrassed and confused, the patient being often unable to do more than answer in monosyllables. When he attempts to rise, he is obliged to rest upon his hands, and the exertion is tedious and difficult. The gait is unsteady, one limb being dragged after the other, and the slightest slip causing the patient to fall. In the horizontal position, however, the lower limbs may still exhibit much more vigour and freedom of movement.

The whole muscular system is affected, more or less, with the paralytic weakness; the muscles of the neck, trunk, and abdomen, and even some of the internal muscles, as those of the pharynx, bladder, rectum, &c., participating in the general atony.

The sensibility, too, of the system, general as well as special, is usually

impaired at the same time. This indeed is the case in almost all palsies, which have their seat in the encephalon; the intelligence is first affected, then the motility, and lastly the sensibility. When the palsy is owing to any lesion of the spinal marrow, the integrity of the mental functions is not affected. In the second stage of paralysis, occurring in the insane, the sphincters of the rectum and urinary bladder generally lose their normal contractility; and hence the miserable patient is too often the victim of sad filthiness.

Although the prevailing state of the mind is usually that of taciturn imbecility, there occur occasionally fits of excitement, during which the speech, previously most difficult and incoherent may recover a perfect freedom and readiness of utterance. It would seem as if the state of general irritation had awakened, for a time, the slumbering action of the cerebrum from its state of apathy and stupor.

Although the powers of mastication and deglutition are generally more or less impaired, the appetite is not unfrequently not only good, but even voracious. Cases have occurred, where the patient, in his haste to swallow a large morsel, has had the misfortune to let it drop into the rima glottidis, and been quickly asphyxiated. M. Bayle narrates two cases of sudden death, where on dissection the larynx was found plugged up with food.

The digestive and assimilative functions often retain their normal activity, and the state of the circulation and breathing too may be perfectly healthy all this while.

Third Stage.—The paralytic weakness is now considerably advanced. The intelligence is *nulle*. The patient scarcely ever speaks, and if he does, it is only confusedly in monosyllables; his limbs totter or give way under him, and he is unable to raise himself from bed. The senses of vision, hearing and smelling are all much impaired; and, although the appetite often remains vigorous, there seems to be little or no discrimination of taste.

During this stage, some bowel-affec-

tion and most frequently a diarrhœa, usually comes on, and rapidly exhausts the patient's strength. Eschars form on those parts on which he lies, and death soon closes the distressing scene of misery.

The age, at which general paralysis in the insane is most frequently observed is from the 30th to the 50th year of life. It would seem that the sanguineous temperature predisposes to its occurrence. Hypertrophy of the heart—generally of its left ventricle—has been detected in many of the unfortunate victims of this form of palsy.

The morbid state, on which the disease is in most cases connected, is a chronic inflammation of the cerebral meninges, which has terminated in serous effusion.

At other times, it is found to be a general hardening of the cerebral mass or purulent deposits in, or tuberculous vitiations of, its tissue; or a ramolissement of one or of both hemispheres, &c.—*Revue Medicale*.

ON THE DISEASES OF OLD AGE.

The data, from which M. Prus has derived his conclusions, were obtained from the histories of 430 patients, who died at the Bicetre during the period of four years. It will be necessary, however, to deduct forty of these cases from our list, as the patients had not attained 60 years of age. The remaining 390 are arranged by M. Prus in the following manner:

149	died from diseases of the respiratory organs.
101	———— diseases of the nervous centres and their coverings.
64	———— diseases of the organs of circulation.
49	———— diseases of the digestive tube.
8	———— diseases of the liver and its appendages.
19	———— diseases of various kinds

390

It has frequently been supposed that the most common disease of old age are those of the abdomen. This idea is quite refuted by the preceding table; the cause of death is much more often in the chest and encephalon.

M. Prus then gives another table of those patients who were successfully treated during the same period of time, when the preceding fatal cases occurred

Of 685 cases, which were either cured or greatly relieved at the Bicetre	
216	were diseases of the respiratory organs.
151	———— of the nervous centres.
144	———— of the digestive tube.
54	———— of the organs of circulation.
22	———— of the skin.
98	———— of various kinds.

According to this table, the stomachic and bowel affections were considerably more frequent than those of the circulatory system.

M. Prus, in alluding to the peculiarities of disease in old age, very forcibly dwells upon the frequent feebleness or defect of reaction in the diseased organs, and on the obscurity and uncertainty of diagnosis which are consequently induced.

Thus the lungs may pass into the state of grey induration, the stomach may be the seat of cancerous degeneration, without the necessary existence of any well-marked symptoms during life. Even the heart itself, as Bichat remarked, may be most seriously altered by disease in old age, and yet perhaps not even a suspicion of this being the case may have been once excited during the life of the patient. The circumstance shows the high importance of a strict examination of the thoracic organs in aged patients, whether there be or be not any symptoms of cardiac disease.—*Archives Generales*.

M. ROSTAN'S REMARKS ON CLINICAL MEDICINE.

One of the favourite axioms of this distinguished Professor is that *there is no*

lesion of function without a coexistent organic lesion. Cases do indeed occur, now and then, where the pathologist fails in detecting any well-marked deviation from healthy structure, to account for the death of a patient; but the *apparent* absence of any change is very probably owing only to partial or defective examination.

M. Rostan, in continuation, remarks: *we cannot expect to disorder the organic lesion after death in many of the Neuroses; for the lesion is transitory and evanescent; and this is necessarily so, because the functional derangements are themselves transitory and evanescent.*

Our sensations themselves impress real and material modifications upon our organs of sense: thus sound causes an organic modification in that part of the brain, which presides over the sense of hearing, &c.

(This doctrine, it will be observed, is strictly phrenological. We might suppose that our author is a stanch disciple of Gall.)

Further on, M. Rostan observes:—

“The brain is the seat of the soul, which probably resides in the cortical or cineritious part. It is a multiple organ; but we cannot localise the different faculties of intelligence any more than we can say what is the part of this organ which presides over the movements of such and such members.”

(Here we find that the Professor rejects the very basis of phrenology.)

But leaving such metaphysical questions, let us hear M. Rostan's opinions on matters of more immediate practical import.

In reference to the general treatment of diseases, he boldly announces that ‘*all medicine consists in diagnosis.*’ He illustrates this position by discussing the common disease of Amenorrhœa.

The various derangements of menstruation are not specific diseases, but are rather functional maladies, indicative of the lesion of some distant organ or another. In one patient, amenorrhœa is attributable to an organic affection of the uterus; in another to some disease, as tubercles, of a more distant organ; in a third to a defect of sanguification; in a fourth to an excess in

the function; and in a fifth to some cerebral irregularity.

If such be the case, how can we expect to treat the disease successfully by having recourse to one uniform mode of prescription, without regard to the primary cause, on which the morbid action depends?

Dropsy is another disease which is rarely if ever essential or diplomatic. The effusion of water is only a symptom of an organic lesion existing somewhere; and hence our remedies ought to be directed against the *cause*, and not against the *effect*.

The medicine of symptoms is, says M. Rostan the worst of all medicines.

This doctrine, however just as a general principle may be carried to a pernicious extent in so uncertain an art as that of physic. The wisest and most experienced practitioners find it not unfrequently necessary to be satisfied with trying to relieve symptoms, in cases where the primary and essential cause of the disease is obscure and uncertain.—*Journal des Connoiss. Med. Chir.*

ON THE APPLICATION OF ARITHMETIC TO THE RESULTS OF THERAPEUTICS. By M. DOUBLE.

M. Double is one of the oldest and most experienced members of the profession in the French metropolis, and being a man of high repute and having never attached himself to any particular sect or school in medicine, his remarks on any professional subject cannot fail to deserve our studious attention.

Our readers are probably aware that, of late years, there has been an energetic controversy among the medical men in Paris as to the value of numerical calculations, (or, as it is sometimes very absurdly called *statistique*;) in ascertaining the efficacy of any given mode of treatment in disease. For example, there was, within the last twelve months, a very keen discussion in the Royal Academy of Medicine as to the relative value of the purgative and of other methods of treating typhoid fever. To settle this practical

question, an appeal was attempted to be made to lists of cases treated in different manners; one physician insisting upon the predominance of his list, and another upon that of his. In short, the Academy could not come to any decided opinion on the subject, and, like a prudent and cautious arbiter, announced their judgment that the question was still open to further investigation!

M. Bouillaud, on this as on most other topics of medical enquiry, carries his opinions to an extravagant length. In his recent work on Medical Philosophy he descants, in most flowing language, upon the wonderful changes to be effected in our science by an adoption of the *calcul statistique*, and, as a matter of course, he adduces the astonishing results of his *saignées coup sur coup* in the treatment of fever, pneumonia, &c. to confirm the justness of his doctrines. But M. Bouillaud, although a clever and enterprising man, is much too hasty in his adoption of certain views, and much too energetic in his advocacy of them, to gain general credit among experienced men. We shall not however anticipate the remarks of M. Double, but proceed to give an analysis of a very valuable paper, which he recently read before the Royal Academy of Medicine.

After some preliminary remarks on the value of public discussion, the worthy old gentleman comments, in a playful and quietly quizzical style, on the prevailing fashionable partiality to the science of numbers

"Statistics is now-a-days, among the various branches of human knowledge, a science quite *à la mode*. In the ardour of its zeal, in most respects very praiseworthy, it mixes itself up with everything, and would willingly seize upon all. It very quickly made an irruption upon *notre pauvre médecine*, which on most occasions is but too ready to give admission to every eccentric notion, which is presented to it. Not satisfied with the usual methods, which are slow, difficult, and without any eclat or glory, the ardent spirits amongst us have, on all occasions, sought to find out new ones, which

promise a quick solution of every problem. It is thus that, at the present moment, the *Statisticiens* of medicine are trying to substitute mathematical for logical analysis, and to supplant mere reasoning by calculation and arithmetical induction."

Now the object of this arithmetical induction is to ascertain, from the examination of a multitude of cases, the method of treatment best fitted to subdue a particular disease; just in the same manner as the mathematician calculates, from the observation of numerous facts, the probably of future events. But it would seem to be forgotten by those, who draw this analogy that the *facts* of the latter are uniform and exact whereas those of medical science are only so many detached data isolated and not general; in other words no two cases of the same disease are perfectly alike in all their characters. And indeed, as M. Double well observes, unless this were the case, the art of medicine would be reduced to the same level as any of the common trades of the artisan.

If, for example it could be unhesitatingly pronounced that any given disease is to be treated in a certain manner—let us say by three or four bloodlettings, the application of so many leeches, and so forth—without reference to its existing type, the constitution of the patient, &c., it is obvious that almost any one might attend such a case as profitably as the most experienced physician.

Well may M. Double playfully remark that all such attempts to reduce the practice of the medical art may be compared to the proposal of a shoemaker to take the medium size of foot in a thousand persons, and then to *chausser tout le monde* upon this one measure.

As long as each case of a disease is an individual problem, which must be examined by itself, and not merely in reference to any antecedent cases of the same disease in different persons—and we believe that all really practical physicians will coincide in opinion on this subject—we cannot expect that the doctrine of mathematical calculation

can ever be strictly applicable to medicine.

The numerical method, applied as a rule to guide the physician in his practice, is extremely apt to sanction one of the most serious errors in therapeutics—to wit, the adoption of absolute and exclusive systems of treatment.

This error necessarily springs from supposing that a disease is a uniform, fixed, and invariable phenomenon—a doctrine utterly irreconcilable with what we observe in nature.

Far from this being the case, we should say that a disease is a variable series of unsteady acts, which are changing every day, nay, every hours of its existence. The *pneumonia* of to-day is not the *pneumonia* of yesterday; neither is the *pneumonia* of Paul the same as the *pneumonia* of Peter.

Consider the embarrassment and disappointment which the young physician almost always experiences when he passes from the lecture-room of the professor to the sick-room of the patient. In the former he was completely *au fait* with the whole book of nosology; in the latter, alas! he finds his knowledge very speedily at fault. Now all this arises from the marked contrast that exists between the uniformity and exactitude of oral or written descriptions of disease, and the variable characters which it exhibits in actual practice.

If we examine those classical collections of cases, which are so often appealed to as faithful transcripts of accurate observation—we allude to the words of Hippocrates, of Baillou, the letters of Morgagni, the consultations of Hoffman, the *ratio medendi* of Stork, Dehaen and Stork—do we not find that the descriptions of the same disease are by no means uniform in the page of these great authors?

Now if a disease is not uniform in its character or symptoms, the same method of treatment cannot possibly be proper for all cases without exception.

Let us take for example the diseases known by the name of Typhoid fever; and this is probably the most appropriate example that we can select, as it is upon the treatment of this very malady, that the question of the 'nu-

merical method applied to therapeutics, was first mooted.

M. Double takes the present opportunity of utterly disclaiming all assent to the various pathological names which have, within the last five and twenty years, been imposed upon typhoid fever; "*depuis long-temps je gemis sur cette nouvelle denominations de fiebres typhoides.*" Sydenham, he goes on to state, has most truly said that improper appellations of diseases have introduced into practical medicine more errors than even false systems and theories.

Since the period of M. Broussais's first publication, a most pernicious custom of grouping together all continued fevers, from the simple *embarras gastrique* to the most aggravated *fièvre ataxo-adynamique*, under one general denomination; as if they were all mere varieties or degree of one morbid state.

Now we are quite convinced that such generalisations are based on a most grievous error;—the error of regarding that pathological condition, known under the term of *typhoid* or *malignant fever*, as a distinct, independent, and essential form of disease in itself instead of viewing it as a mere morbid state of the system, which is frequently co-existent with, and forms a complication to, other maladies.

Who, for example, has not met with cases of ataxo-adynamic pneumonia, or in other words, of pneumonia complicated with a typhoid state of the system?

The peritonitis and uterine phlebitis of puerperal women, small-pox and the other exanthematous fevers, extensive burns, surgical operations, &c., often terminate fatally from the accessions of typhoid symptoms. In the same manner gastric disturbance, and the various varieties of bilious, catarrhal, and inflammatory fevers may have a typhoid character grafted upon, or super-added to, them, so that their proper features or symptoms are greatly obscured. I have never seen, says M. Double, typhoid fever without the co-existence of some other morbid state; and hence I cannot admit it as a distinct and independent disease. In all cases without exception, some nervous dis-

turbance with or without febrile reaction, or gastric irregularity, or an inflammatory or bilious affection, precedes and initiates, so to speak, the development of the typhoid phenomena.

It is one of the evils of the present medical epoch, that physicians study disease almost exclusively in hospitals, and neglect far too much the study of its numberless forms in private practice. In hospitals let it be remembered, that diseases are rarely observed except only when they are fully developed. Hence the phenomena of the earlier stages—the stages of incubation and of invasion—are almost totally overlooked, and attention is paid only to the existing symptoms of a disease already fairly established. Again too, the stage of convalescence can never be accurately watched, throughout its whole progress, in hospital practice; and hence we can never have a sufficient proof of the entire recovery of our patients.

It is from the partial and limited view of diseases, as observed in public institutions, that not a few of the prevailing errors in medicine have sprung up.

As far as regards myself, the more that I (M. Double) see of disease, the more I am convinced that each case forms a new and almost isolated problem for my study. For the nicety and tact of practice do not consist in the mere detection and recognition of certain symptoms, but in the accurate and comprehensive review of all the peculiarities of each individual patient—his corporeal and moral constitution, his idiosyncrasy, his age, the season of the year, the prevailing character of the weather, the climate and influence of locality, profession, pursuits, cares, &c.

If therefore each case of disease has something special in itself, and is marked by a difference, more or less decided from all other cases, how can we think of applying the vigorous inflexible method of arithmetical calculation to the results of medical practice, to discover any uniform method of treatment?

Every exclusive theory in medicine is a *non-sens* of pathology; and every absolute method of treatment is a *contresens* of therapeutics.

Montesquieu, after his profound me-

ditations on the public organisation of societies, came to the conclusion that political as well as moral good is always found to exist in a *juste milieu*; and in like manner we may say that a therapeutic truth 'se trouve toujours dans des moyens termes.'

It is from a conviction of the value of these principles that, during my long professional life, I have always followed a rational and enlightened *eclectism*, based upon a comprehensive analysis and induction—a system or creed, which may be defined to be the *logic of facts enlightened by the logic of reflection*.

In conclusion, Mr. Double enunciates the three following propositions.

1. Individuality constitutes an immoveable truth in pathology: a disease is not a simple, fixed and uniform entity, but is rather a series of diverse, irregular, and changeable acts. Hence all exclusive systems in medicine must be based in error.

2. The strict application of numerical calculation or statistics to therapeutics is impossible.

3. The only admissible methods are logical analysis and induction.—*Gaz. Medicale de Paris*.

OBSTINATE AGUE, COMPLICATED WITH ASCITES, &c. CURED WITH LARGE DOSES OF THE CARBONATE OF IRON.

A youth, 14 years of age, had been in ailing health for several years, when Dr. Gimon was consulted. It appeared from his parent's statement that, when he was in his fifth year, he was attacked with a quotidian fever, which returned regularly every day for three months successively. It resisted every remedial means employed, and only ceased after an attack of severe diarrhœa.

In the course of the following Spring there was a return of the intermittent fever; and at this time it assumed a quartan type.

It would seem that the patient never fairly got rid of this most troublesome complaint for several successive years,

and, as might be expected, his general health had in consequence suffered greatly from this protracted illness. When Dr. Gimon first saw him, he found him pale, weak, and dropsical; the spleen was enormously enlarged, projecting far beyond the edges of the ribs and occupying nearly three fourths of the abdominal cavity, which was partly filled with water; the limbs were œdematous; the urine was scanty; there was a most distressing dyspnœa, aggravated upon any motion or exertion, and the appetite and powers of digestion had long been weak and uncertain.

M. Gimon, attributing the dropsical and asthmatic symptoms to the enlarged state of the spleen, had recourse at once to the use of large doses of the sulphate of quinine, with the view of reducing this disease.

This treatment was persevered in for six weeks, without however any decidedly beneficial effects being obtained. Not only was the size of the spleen little, if at all diminished, but even the return of the agueish paroxysms was not very sensibly arrested.

The doses which Dr. G. administered were immense—nearly a drachm a day! He alludes to the opinion of M. Bailly, that the stomach, in patients affected with enlargement of the spleen, will usually bear larger doses of medicines than in almost any other case.

The quinine being omitted, no further medication was resorted to for six or eight weeks; but then the state of the invalid becoming more serious, Dr. Gimon was again consulted. He now recommended the use of the carbonate of iron, along with a weak decoction of cinchona. The dose of the carbonate was rapidly increased from twelve grains to two drachms in the course of the twenty-four hours.

This treatment was persevered in for several months; and ultimately with the happy effect of completely removing all signs of disease: the size of the spleen had become remarkably reduced; the dropsical effusion had entirely disappeared and the disposition to the returns of intermittent feverishness seemed to be quite overcome.

The cure was moreover permanent.

Case 2.—A countryman, 21 years of age, of a lymphatic constitution, had been affected with a quartan ague for upwards of three years, when he first consulted Dr. Gimon. His complexion was pale and yellowish; the features were puffed and bloated; the limbs were œdematous; the abdomen was swollen; especially over the region of the spleen; and his general health was frail and uncertain. For the preceding six months, the ague had returned regularly every third day: and during the intervening days, or those of apyrexia, the patient's strength was so feeble that he could not engage in any occupation. Although the tongue was red* and the epigastrium was rather tender on pressure, Dr. G. did not hesitate to have recourse to the use of the quinine—10 grains every six hours. This was continued for eight days; but the paroxysm of the disease were not arrested.

The carbonate of iron was now substituted—at first in small doses, which were rapidly increased, so that at length the patient took six drachms in 24 hours. For the first fortnight of this treatment, no very sensible amendment took place, the paroxysms of the fever returning as frequently and as severely as heretofore. After this time, however, the state of the patient began to improve, and the fever and other symptoms gradually subsided. In the course of three months, the enlargement of the abdomen had quite disappeared, and the health was completely re-established.

These two cases are fair examples of the good effects of steel in some obstinate and long-continued agues. It is not a new practice, as we find that it

* M. Bailly has very properly remarked that the mere redness of the tongue, even although accompanied with a certain uneasiness or tenderness of the epigastrium in many agueish cases, is not a sufficient contra-indication to the use of bark. Unless there is a febrile irritation of the system at the same time, we should not attribute these symptoms at once to a gastric affection.

has been recommended at different times by several authors. The writer of the article *fièvre*, in the *Dictionnaire des Sciences Medicales*, mentions a case of a quartan fever, of four years' standing, cured with the sulphate of iron, after it had resisted a host of previous medicines.

We have already said that the mere circumstance of redness of the tongue and uneasiness of the epigastrium need not preclude the administration of steel. —*Journal des connoissances.*

TREATMENT OF EPILEPSY WITH THE NITRATE OF SILVER.

The late Professor Carron treated a great number of cases of epilepsy with very marked success, by means of the nitrate of silver internally administered. Were practitioners sufficiently aware of the admirable effects of this metallic salt, we are satisfied that they would have recourse to its use more uniformly, and not lose time in trying various other less potent remedies.

When Joseph Frank published an account of his visit to Paris and London, he had numerous conferences with M. Heim, who first proposed the employment of the nitrate in the treatment of epilepsy. The formula, which he recommended, was—

R. Argenti nitrat.	gr. x.
Opil puri	gr. vj.
Extract. conii,	3ij.
Extract. glycirrh.	3j. Misce.

Divide into pills of three grains each; three to be taken on an empty stomach every morning.

The English and American physicians appear to have obtained great success in the treatment of epilepsy from the use of these pills.

In the medical journal, edited by MM. Corvisart, Boyer, and Leroux, for 1814, we read the following paragraph in a communication from Dr. Valentin: "I am informed that in the United States of America they continue to employ the nitrate of silver in cases of epilepsy: numerous examples of its

successful administration are recorded in their journals."

The late Professor Carron cured more than 20 cases of genuine epilepsy by means of the nitrate: in some the treatment was very tedious, as it required to be persevered in for a full twelve-month.

The usual dose for an adult, at first, is the eighth or so of a grain, twice a day. This dose should be gradually, but slowly, increased. With respect to the occasional discoloration of the surface from the internal use of the nitrate of silver, he (M. C.) never met with a single case of it.

The following two cases are illustrative of the efficacy of the remedy.

M. Laurent, now a physician resident in the environs of Lyons, was attacked with epileptic fits in the twelfth year of his age. He was treated with valerian, bismuth, copper, &c. &c.; but the disease obstinately resisted every remedy employed.

Professor Carron, being now consulted, recommended the use of the nitrate of silver—the 20th part of a grain evening and morning—and the introduction of a suppository, containing valerian, assafoetida, and opium, every night at bed-time. The youth was, at the same time, advised to discontinue all his studies, to live very abstemiously, and to take a bath three times a week. The fits returned every fortnight. After three months' treatment, their recurrence was once a month; after six months, once every seventh week or thereabouts; and, after a twelve months' use of the remedy, there was a complete cessation of the fits. The use of the salt was not intermitted for two months; but renewed for some time, in order to secure greater certainty as to the result.

During the following eight years, the patient took the nitrate for two months each year. There has never been any return of the disease.

Case 2. Ernest B., 10 years of age, had been for several years subject to epileptic fits, in consequence of which the left eye exhibited a partial squinting. The fits usually recurred once a week or so; and their approach was

generally announced, for two or three days previously, by the greater obliquity of the left eye, and dimness or loss of vision in it.

Professor Carron recommended the employment of the nitrate of silver. Its use was continued for three months, without any sensible improvement in the condition of the patient; but after this period, there was a very marked retardation in the return of the fits. From the fourth to the sixth month there occurred only one fit; and from the sixth to the ninth only two, both of which took place within ten days of each other. After eleven months' use of the remedy the fits appeared quite subdued, and the strabismus of the left eye had almost entirely vanished.—*Bulletin General de Therapeutique.*

OBSERVATIONS ON THE POISONOUS EFFECTS OF RUE, AND ON ITS INFLUENCE ON THE UTERUS.

It would seem that the various means deemed capable of inducing abortion are not equally made use of in all countries alike; each country appearing to follow some particular practice in preference to any other. In Paris the puncture of the membranes is generally resorted to; and it is truly disgraceful to think that not only many midwives, but even some medical men, lend themselves to this flagitious practice. I lately saw a melancholy case of a young woman, who died of *metro-peritonitis* in the Hôtel Dieu of Paris from a deep penetrating wound of the uterus, induced by the use of a trocar for the purpose of bringing on miscarriage.

In other parts of France the use of rue and of savine leaves, in various preparations, is chiefly trusted to as provocatives of abortion. At present we shall confine our remarks to the former of these two plants.

There has been much difference of opinion as to the medical effects of rue; some alleging that it exerts a direct and immediate action on the uterine system, while others contend that, whenever it seems to do so, this action

is only secondary to, and consequent upon, an irritation of the intestinal canal and a disturbance of the nervous system; and hence that its use much oftener fails in provoking miscarriage than succeeds.

To determine the question, Dr. Helie, the author of the present observations, reports several cases. One of these is as follows.

A young female, having suffered a great deal in her first accouchement, was resolved to try some means to bring on abortion in her second pregnancy. She applied to Dr. Helie for the purpose, being about four months advanced but he very properly declined giving her any advice, but that of dissuading her from her intentions. She told him, however, that, if he would not prescribe for her, she would apply to some other person. A fortnight afterwards she returned to him; and then she was no longer pregnant. She mentioned to him that, by the advice of a woman, she had taken three fresh roots of rue, cut them in pieces, and then boiled them in a pound and a half of water down to three small cupfuls, which she drank one evening on going to bed. Dreadful pain in the stomach came on, accompanied with vomitings, and with such universal oppression, that she thought she was dying.

This state continued all the night, and next day the symptoms were much abated. But now she began to experience colicky pains, slight at first, but gradually increasing in severity, and returning at intervals. On the evening of the second day, they became much more violent, and were evidently the pains of labour: abortion came on soon afterwards—in 48 hours after taking the decoction of rue.

Case 2. A young woman, residing in a farm-house, was suddenly seized with most severe vomiting, violent twisting pains in the abdomen and limbs, restlessness, and tendency to delirium. She had all the appearance of being intoxicated.

Dr. Helie suspected that the illness was the effect of medicines, which had been taken with the view of provoking

abortion: the patient seemed to be in the seventh month of pregnancy, although she positively denied it.

He therefore contented himself by withdrawing certain drinks which she had been using, and by confining her to simple barley-water.

The vomitings speedily ceased; but the abdominal pains continued to increase, and in the course of the following day, she was delivered of two infants.

Alarming symptoms of poisoning came on afterwards; but these fortunately subsided by degrees, and the girl ultimately regained her health. She afterwards admitted that she had made use of a strong decoction of rue leaves.

Case 3.—A girl, in the fourth month of pregnancy, took for several days a strong dose of the fresh juice expressed from rue leaves. Vomiting, severe colic, great prostration, and tendency to syncope, somnolence, delirium and coldness of the whole surface came on. There was also, as in the preceding case, an inflammatory swelling of the tongue, accompanied with a profuse salivation. The expulsion of the fœtus did not happen till the sixth day after the swallowing of the poison. The acrid-narcotic effects did not cease altogether for another week.

From the particulars of these cases, we may reasonably conclude that rue, in powerful doses, has decided narcotic irritant effects. Its action in diminishing the force and frequency of the heart's movements appears to be as marked as that of digitalis: in some cases, under its influence, the pulse has fallen to thirty beats in the minute.

Its peculiar action on the tongue, inducing an active inflammation of this organ, deserves notice.

Dr. Helie is of opinion that it also has a direct and *elective* action on the uterus, and that therefore it may be regarded as a provocative of miscarriage, quite independently of its irritant and narcotic effects on other parts of the body.

If such be the case we may reasonably expect that the use of rue will be serviceable in many cases of amenor-

rhœa. The fresh plant is very much more powerful than the dried one: indeed we should never trust to any preparation of the latter. The expressed juice of the fresh leaves is the most active form in which it can be taken; and, after it, a decoction of the fresh plant.—*Annales d'Hygiène, &c.*

RESEARCHES ON MENSTRUATION.

M. Petrequin, one of the most intelligent contributors to the *Bulletin Médical Belge*, published lately a small work in which he has recorded the result of his enquiries on the above subject.

The first question he proposes for consideration is, at what age does the menstrual flux usually appear in our climate (France)? Two hundred and seventy-two cases have served him to draw up the following table, from which it appears that the earliest age is about ten years, and the latest about twenty-two years:—

4 at 10 years of age	
10...	11
15...	12
33...	13
33...	14
45...	15
48...	16
32...	17
27...	18
12...	19
7...	20
5...	21
1...	22

M. Petrequin, therefore fixes upon the period between 13 and 15 years of age, as that at which puberty generally occurs in France.

From his researches it appears, that the more tardy that the first appearance of menstruation is, the more apt is the function to be irregular and disordered afterwards.

The next question, which our author endeavours to solve, is, at what period of life does the cessation of the catamenia usually take place? He fixes it at between the 35th and 55th years. It is well known that, in some females, it is prolonged considerably beyond the

known it to continue to the 65th, Richerand to the 70th, and Gardien to the 75th year of life.* Occasionally the flow returns, after it has ceased for several years.

From the comparison of 60 cases, M. Petrequin states, that menstruation ceases between 35 and 40 years of age, in about one-eighth; between 40 and 45 years in one-quarter; between 45 and 50 in one-half; and between 50 and 55 in one-eighth of the whole.

We shall now briefly consider, whether the common notion that the epoch of life, at which the function of menstruation usually ceases, is really a very critical one to women, in reference to mortality.

M. Petrequin has not been able to satisfy himself on this topic from personal researches; he appeals, therefore, to the statements of preceding authors.

According to Muret, the period from the 40th to the 50th year of life is *not* more critical to women than the period from the 10th to the 20th year. M. Lupecq found that of 1,478 deaths in persons between 20 and 50 years of age there were 718 females and 760 males; and M. Benoiston states that, from the result of his enquiries, it appears that the period of life between 40 and 50 years of age is in truth more critical for men than women.

M. Lachaise has come to the same conclusion in his Medical Topography of Paris.

Mr. Finlayson states as the result of his numerous researches that, after the period of infancy, the life of women is, on the average, considerably more lengthened than that of man.

It is not to be denied that at the period of life, when the catamenia cease there is a tendency in some women to the development of certain diseased actions; but then be it remembered at the same time that in others—as in those who have long suffered from excessive or irregular menstruation—there is a very marked improvement of the

general health: the one set of cases may therefore be said to be counterbalanced by the other set.

A few hygienic precautions, such as the use of cooling aperitive medicines, the use of light food, the abstinence from venereal pleasures (which are apt, according to Desormeaux, to induce cancerous disease), and the occasional loss of a little blood, will lead most women safely through this often-dreaded period of life.

We may notice *en passant*, that blindness from amaurosis is of frequent occurrence when the catamenia cease to return.

With respect to the quantity of the catamenial secretion, we may probably state it at about from three to five ounces. It is usually more copious in Spring than in other seasons of the year; and there is reason to believe that the sexual passions, and also the aptitude to conceive are greatest in the former season. M. Villermé has deduced, from the comparison of 13,903 cases of labour, that most conceptions take place in the month of April, May, and June.

The quantity of the catamenial discharge is very generally greater in women of a voluptuous than in those of a cold and less susceptible constitution.

It is an idle waste of time to endeavour to find out the cause of the monthly return of the catamenia. All that we can say is that it is a law of the system in the human female: just as the period of nine months is that of utero-gestation, or as certain plants flower in certain months and not in others.

The *why* of these phenomena is beyond our research; and he, who attempts to discover it, will only subject himself to the satire of another Moliere: *Opium facit dormire, quia est in illo virtus dormitiva.*—*Bulletin Medicale Belge.*

CASE OF REMARKABLY PRECOCIOUS MENSTRUATION

* The Belgian journals, a short time ago, mentioned the case of a woman giving birth to a child in her 70th year.

Dr. Susewind has related, in the April number of one of the German Journals,

the case of a child now 27 months old, in whom there has been a regular return of a sanguineous discharge from the vagina every month since the end of the first year of her age. It usually lasted for two days, and exhibited all the appearance of ordinary catamenia. The genital organs are developed in a very extraordinary degree; the labia are full and prominent, and also covered with hair, the mammae are as large as a good-sized apple, and the nipples are surrounded with distinct areolæ.

There are many similar cases recorded, or alluded to, in the works of Haller and Ploucquet; and since their time we find other analogous instances in most of the periodical publications. (We must refer the curious reader to the original paper for reference to these authorities.)

Lobstein and Canes each relates a case in which menstruation commenced in, and continued regularly after, the second year of age: in one of these cases the girl conceived in her eight year.—*Wochenschrift für die gesammte Heilkunde*, and *L'Experience*.

mending the above simple expedient, suggests the trial in some cases of a direct inoculation with menstrual blood, by means of a sponge moistened with it and introduced into the vagina of the patient.

The remarkable resemblance between the smell of the *chenopodium olidum* and of the catamenial discharge has often suggested the employment of this plant in uterine affections; and from the multiplied testimony of numerous writers we cannot hesitate to recognize it as a potent emmenagogue.

About a century ago it was admitted under the name of *artiplex olida*, into the Pharmacopœias of London and of Edinburgh, in the form of a conserve or electuary. Dr. Krieg has recently tested the effects of the fresh juice, reduced to the state of soft extract, in several cases of amenorrhœa, and he assures us that it exerted very distinct emmenagogue powers.

In other cases, Dr. K. has found excellent effects from a combination of *secale cornutum*, *limatura ferri*, and *oleo-saccharum juniperi*,—*Caspar's Wochenschrift*.

OBSERVATIONS ON EMMENAGOGUES, AND ON THE "AURA MENSTRUALIS."

Dr. Krieg commences a very ingenious paper on the above subject, by endeavouring to shew that there is an *aura menstrualis*, or exhalation from the catamenial discharge of one female, which is capable of exerting a very decided influence on the uterine system of another female, so as to induce the menses in her, if they happen to be suppressed. He assures us that, in many cases of amenorrhœa, he has succeeded in obtaining a cure by simply recommending the patient to sleep with any other female, who may happen to be *unwell*.

He gives the particulars of some of these cases; but it is almost unnecessary to detail them.

[The hint appears to us (Rev.) to be worthy of notice, and deserves to be acted upon.]

Dr. Krieg, not satisfied with recom-

PROTO-IODURET OF MERCURY IN SYPHILIS.

A middle-aged man contracted a chancre in 1830: it was long of healing, and it seems that no regular course of medicine was taken at the time. For several years successively there appeared various symptoms of secondary syphilis. At one time he was treated with Dupuytren's pills, which consist of corrosive sublimate, opium and guaiacum; and at another with a solution of the sublimate and with fumigations of cinnabar. The symptoms gave way at the time; but re-appeared soon afterwards.

He was then treated with some preparations of silver, which within the last few years have been much recommended by Professor Serre of Montpellier; but these seemed to have no effect, although they were pushed to a very considerable extent.

The use of the proto-ioduret of mercury was substituted; and in a very

short time the excellent effects of this remedy both on the general health and on the local disease were apparent. The cure was permanent; at least there was no return of the malady for a twelve-month.—*La Lancette Francaise*.

Remark. The excellent effects of many of the preparations of iodine, either alone or combined with some mild mercurial, in secondary syphilis seem to be now admitted by all. We have found the common hydriodate of potash, and the Plummer's pill among the best of all the preparations.—(*Rev.*)

ON THE PREPARATIONS OF SILVER IN THE TREATMENT OF SYPHILIS.

Professor Serre of Montpellier, a corresponding Member of the Royal Academy of Medicine, published, about a year and a half ago, a pamphlet on the above subject.

Of late years, he says, a considerable modification of opinion as to the exclusively specific powers of mercury in the cure of the venereal disease has taken place, in consequence of the researches of different authors in France and in other countries. Some have substituted the employment of antiphlogistic remedies to the entire exclusion of mercurial medicines; others, more recently, have used certain preparations of gold with very decided benefit; and still more lately, M. Serre has given a trial to various salts of silver, at the large civil and military hospital at Montpellier. The preparations of this metal, which he has used, are the chloride, the iodide, the cyanuret, and oxide.

Of the three first, the dose he commenced with was the tenth or eighth part of a grain; of the oxide he gave the fourth part.

He has published the reports of twenty-two cases of syphilis, in which the local symptoms were more or less severe, but in a very few only of which there was any decided constitutional contamination. In all, the treatment was quite successful. It is to be observed that no other medicines, of any sort, were administered at the same time.

M. Chrestien, in his researches on the action of the preparations of gold in the treatment of syphilis, suggested the employment of them in the way of friction upon the tongue. He assured us that in this manner they are more readily absorbed than in any other.

M. Serre has come to the same conclusions in reference to argentine salts.

The average total quantity of these salts administered by M. Serre may be stated at from six to twelve grains; but he is now of opinion that he was too timid in increasing the doses. The preparation, which he considers to be the most active, is the chloride; then the oxide, the iodide, the cyanuret, and lastly, the pulverised pure metal.

With respect to the *modus operandi* of the salts of silver, M. Serre states that hitherto he has not been able to satisfy himself. He could not discover that there was any sensible increase or change in any of the secretions; nor was the breathing or circulation sensibly affected. The only appreciable effect produced was a slight and transitory excitement of the alimentary canal; but even this soon passed away, if the medicine was discontinued for a day or two. We must therefore confess entire ignorance on the subject; and this indeed is not very surprising, when we consider that, in spite of the innumerable attempts to discover the action of mercury in the cure of syphilis, we are nearly as ignorant as our forefathers were three centuries ago.

The advantages, which the preparations of silver have over those of mercury, are, according to M. Serre—1st, that they do not cause salivation, nor exert any hurtful influence on the digestive tube, and the lungs; 2d, that a great saving of expense, especially in hospitals, may be effected; and 3d, that the same precautions are not necessary, as when the system is under the influence of mercury.

M. Serre says that the salts of silver are much less irritating and exciting than those of gold, which are generally hurtful in nervous and susceptible constitutions, or whenever the chest is weak and delicate.—*Bulletin de Therapeutique*

CLINICAL REVIEW.

GUY'S HOSPITAL.

I. EXPERIMENTS AND OBSERVATIONS ON ALBUMINOUS FLUIDS.

By DR. BABINGTON.

THE following observations of Dr. Babington's appear to us to be highly valuable. They are intended to illustrate the changes which albuminous fluids undergo by an union with the pure alkalies and the neutral salts.

Urine which contains albumen, or pus, is, for the most part, acid. But urine which contains adhesive, ropy mucus, is almost invariably alkaline. The latter is formed by the mucous membrane of the bladder in the state of chronic inflammation. But the researches of Dr. Babington, which we shall now quote, go to prove the existence of a closer affinity between these two deposits than was previously imagined.

"During an attendance," says Dr. Babington, "some months since, on a gentleman who had calculus in the bladder, together with prostatic disease, I had frequent occasion to examine the condition of his urine; which, under the use of acidulated infusion of Buchu, maintained an acid re-action, and was in itself clear and of a natural colour. Towards the end of micturition, however, more especially when first performed in the morning, a cream-coloured opaque fluid was voided; which became mixed with the urine, and ultimately settled at the bottom of the vessel in which it was received. This fluid was not ropy; so that on decantation, it could be made to flow off, drop by drop; and when thus divided, it appeared to consist of minute flocculi. The application of heat caused an immediate flocculent precipitate; and alcohol, acids, and all such agents as precipitate albumen, had the same effect. On the addition of a moderately strong solution of pure potassa, a remarkable change occurred; the thick creamy sediment became transparent; and was converted, on agitation, into a semi-solid mass, so viscid and tenacious, that, in pouring it from one test-tube to another, a continuous string, several feet in length, could be formed. This mass I found to be of difficult solubility in water; the mere affusion of that menstruum being wholly insufficient, even after many days maceration, to alter its character, or abstract the alkali from it. It was, therefore, practicable to wash its surface, so as to free it from any alkaline re-action upon turmeric or reddened litmus-paper. It bore a boiling heat, without losing its viscid consistence or transparency; and remained unaltered, in an open phial, for several weeks. Nitric acid, much diluted, only rendered its surface opalescent; but when added in a more concentrated form caused a precipitate. Ammonia was equally efficacious as the fixed alkalies, in forming with the urinary sediments a tenacious transparent semi-fluid. This strongly retained the ammoniacal odour; and the compound bore a similarity so striking to natural ropy mucus passed under certain diseased states of the bladder, that I was induced to institute a more minute comparison between them. The opportunity of doing so was afforded me by a case of diseased bladder, with catarrh of that organ, under my care at the same period. The urine in this instance was of a deep colour, and not very clear: it had an ammoniacal odour, was highly alkaline, and deposited a viscid transparent amber-coloured mucus. This mucus was as ammoniacal in its re-action as the urine itself. It was difficultly soluble in water. The caustic alkalies rendered its odour more pungent, but did not affect its viscosity or general appearance. Nitric acid caused a copious precipitation of brown flocculi, insoluble in water. From these characters, this natural ropy mucus seemed to me closely to resemble, if not to be

identical with, the artificial combination with ammonia which I had effected, in the first case, by the union of ammonia and the urinary sediment. That sediment I considered to be of a purulent nature; but coming, as it did, from a hidden source, direct proof of this was wanting; and my next endeavour, therefore, was to ascertain whether the same combination could be formed by a union of the pure alkalies with matter from other parts. Fresh pus, from an abscess in the groin, was made the subject of experiment. It was slightly acid; and on the addition of liquor potassæ, just sufficient for saturation, it began to thicken, and became viscid. A further addition of alkali, brought in contact with it by agitation, effected its complete conversion into a semi-fluid transparent tenacious mass. Solutions of soda and of ammonia produced a similar change; the latter, indeed, in so remarkable a degree, that whilst the pus, when poured into a clean test-tube, was, in accordance with its usual characters, a thick opaque creamy fluid, adhering, as it flowed, to the sides of the glass, on being agitated with liquor ammoniæ it immediately formed a tough transparent semi-solid, which could with difficulty be shaken towards the mouth of the tube at all; but on being caught and contorted as it protruded, the whole was completely brought away, even from the very bottom, so as to leave the internal surface of the tube as clean and free from moisture as before the pus was poured into it. The mucous expectoration in pneumonia will, in the same way, leave the surface of the vessel which contains it. The combination thus formed was very difficultly soluble in water, and retained its viscosity and alkaline qualities in its internal substance, although repeatedly washed: it also preserved its ropiness and transparency, even though surrounded by a weak acid solution more than sufficient to neutralize the alkali with which it was combined. A strong solution of nitric acid rendered the mass opaque, and destroyed its elasticity. Upon the whole, this combination was of the same nature, though more concentrated than that which I had first obtained by the combination of alkalies with the purulent urinary sediment.

As it is often a matter of doubt with the medical man, whether a deposit in urine be of a purulent nature or not, it is a ready test, after pouring off the clear supernatant urine, to add liquor potassæ to the sediment collected in a phial or test-tube. If it be purulent, it will, on agitation, form, with the alkali, the transparent viscid compound which I have described. This I have more than once verified, since my attention was first drawn to the subject."

After detailing a variety of experiments, and building on them several ingenious observations, Dr. Babington terminates the paper with the following conclusions:—

That, probably, natural mucus is formed by some combination analogous to that which results from the action of a pure alkali, or of a neutral salt, on pus or albumen, either by actual chemical combination, or by catalytic force: in which latter case, the proportion of the alkali or salt may be of the less consequence.

The intimacy of the union in the artificial combination is so great that it is not destroyed by an acid, provided this be largely diluted, even though it be added in quantity quite sufficient to saturate the alkali, were it in an uncombined state. This holds true of natural mucus, when secreted in the bladder; for Sir B. Brodie has remarked, that the ropy mucus, secreted under a morbid condition of that viscus is alkaline, while the urine secreted at the same time occasionally remains acid.

The utility, he goes on to remark, of this power of resisting decomposition is manifest in a fluid which is destined to defend surfaces from the contact of injurious agents. For the purpose of lubrication, too, it is difficult to conceive any combination more smooth and slippery than are those containing a free alkali. Liniments and soaps are the compounds to which we have recourse, when we wish to obtain these qualities in the highest degree.

He adds, what indeed appears singular:—

“In the albuminous urine of renal dropsy I have endeavoured in vain to obtain, by the addition of alkalies, any approach to ropy mucus; but whether this is owing to some counteracting tendency in the other constituents of the urine, or to some alteration in the albumen itself, or whether the proportion is too small to render its viscosity palpable, I have not ascertained. To obviate the last cause, of failure, I have concentrated such urine, by evaporation, at a temperature too low to produce coagulation; yet still I had no better success.”

These observations of Dr. Babington are confirmed and carried out by a most promising young chemist, Mr. Golding Bird. This gentleman bids fair to take a high position in the walks of animal chemistry. He has published a long, an elaborate, and a very able paper on the “Chemical Nature of Mucous and Purulent Secretions,” in the sixth number of the Guy’s Hospital Reports. From that paper we can do no more, and we should do no less, than extract the concluding observations, which bear upon the questions mooted in the paper of Dr. Babington.

“If the facts advanced in the two preceding sections are proved, by subsequent observers, to be universally correct, we cannot but admit their importance, even if they only serve to point out the analogy between mucous and serous surfaces, as evinced in their secretions. And, if, as has been shewn, *albumen* can readily, under certain circumstances, become converted into mucus, so we no longer have any difficulty in understanding how mucous membranous surfaces may, under certain states of irritation, pour out albumen in a free or coagulated state. Thus, if the lining membrane of the larynx and trachea—which presents, normally, a surface secreting genuine mucus—be considered as pouring out the albuminous particles of the blood combined with an excess of saline matter (thus constituting mucus!), we have no difficulty in understanding how the same membrane may, from incidental circumstances, pour out the albuminous particles of blood, combined with but a small proportion of saline matter, constituting that form of secretion to which the term ‘lymph’ is applied—a secretion capable of taking on organization, in which particular it physiologically and essentially differs from mucus. If this hypothesis be admitted, as fairly deducible from the preceding observations (17 et seq.), we must consider (for example) the secretion of the larynx and trachea, when in a state of health, as chemically differing from that poured out under the irritation of croupy inflammation, only in the different proportions of saline ingredients present in each; and, consequently, we are not compelled to assume, in explanation of the difference of secretion, that in croup a mucous surface assumes the functions of a serous surface (*quoad* secretion).

But it may be objected to those deductions which depend upon the supposed synthesis (17) of mucus, that, according to the experiments of Dr. Babington and myself, it must be assumed that pus is *first* formed, and then carried to the secreting surface, as a pabulum for the formation of mucus; thus making the latter a secondary product. This objection, however, can scarcely be considered as tenable; for pus has only been used, in our experiments, for the synthesis of mucus, because it presents us with particles of albumen in a state of far finer division than can be procured by artificial means. It is, moreover, sufficiently obvious, that, in the *animal economy*, pus is not really converted into mucus; for the former contains a large quantity of iron, which metal is nearly or altogether wanting in mucus. Is there (I would with great diffidence ask) any physiological difficulty in supposing that on the surface of a serous membrane the blood gives up a mere aqueous solution of albumen with its accompanying saline matter (serum); whereas on a mucous surface it parts with a mixture of its colourless albuminous particles (which have been long known to exist in blood) with serum; whilst at the instant of their separation, or, to use chemical language, whilst in a nascent state, both combine, with an excess of saline matter; the constituting, according to the observations recorded in this paper, mucus, which becomes

poured out on the secreting surface? On a suppurating surface, on the contrary, may we not also suppose that the blood parts with all its ingredients, excepting its colouring matter, and that portion of dissolved albumen which possesses the property of spontaneous coagulation; thus forming pus?—These views, even if their correctness be denied in a physiological point of view, are nevertheless strictly in accordance with the chemical properties and composition of blood, serum, pus, and mucus. These remarks, however, I hazard with extreme diffidence; rather wishing to place before the scientific world an account of this experimental inquiry, than to present any crude and imperfect deductions of my own; trusting, also, that the observations recorded in this paper will attract the notice of those more fitted to the task of investigating their physiological bearings than myself."

II. SIR A. COOPER ON VARICOCELE OF THE SPERMATIC CORD.*

The indefatigable Sir Astley has communicated a good paper on varicocele in the last number of the Reports. He gives a full account of the complaint and examines in detail its anatomy, symptoms, effects, and treatment. It is not perhaps necessary to follow the worthy and able Baronet through all his observations, which, however, we recommend to all our young, and to many of our old friends. We may cite his enumeration of the best marks by which we may discriminate varicocele from hernia.

The patient is desired to place himself in the recumbent posture: then the surgeon presses upon the spermatic cord, and raises the testis and swelling, and it disappears: he then places his fingers at the external abdominal ring, and directs the patient to rise; and if the swelling be varicose, it immediately reappears; but if it have been hernia, it cannot re-appear. Even pressure at the abdominal ring, without the patient returning to the erect position, will reproduce the swelling of the spermatic veins, by preventing the free return of the blood; but the pressure must not be sufficient to arrest the blood in the spermatic artery, or the veins will remain empty.

Sir Astley alludes to the ordinary remedies—suspension—cold bathing and evaporating lotions—the exciting of inflammation and thickening of the scrotum by blisters and means of that description—the drawing the scrotum through a ring and fixing it there—remedies useful in most cases, absolutely effectual in few or none. In some cases there is so much uneasiness and mental distress, that even amputation is demanded by the patient. Sir Astley relates a case of this description. Sir Astley speaks of ligature of the spermatic veins, but he speaks of it only to condemn it.

"But, in my Work on the Testis, published in the year 1830, I have advised the removal of a portion of the scrotum, in the following words:—

'The removal of a portion of the scrotum will lead to a diminution of the veins of the spermatic cord; and it is an operation, in an extreme enlargement accompanied with pain, which might be tried with perfect safety, and is very likely to succeed.'

I had, at that time, never performed the operation, and I therefore spoke of the probability of success only: but, aware of its being free from danger, and seeing that it would render the remaining portion of the scrotum a natural bandage, and that a great degree of relaxation of the scrotum also attended this complaint, and that such relaxed portion might be safely and effectually removed, I determined to take some opportunity of performing the operation.

Beside the advantage of making the scrotum, in its lessened state, a means of

* Guy's Hospital Reports, No. VI.

support, it must naturally occur, that the adhesion excited by the operation, of the fascia which covers the cremaster, to the surrounding parts would produce a permanent support, and render a suspensory bandage unnecessary. It might be thought a painful operation; but it is not so, nor does it excite constitutional irritation.

The mode of performing it is as follows:—The patient being placed in the recumbent posture, the relaxed scrotum is drawn between the fingers; the testis is to be raised to the external ring by an assistant; and then the portion of the scrotum is removed by the knife or knife-scissors;—but I prefer the former. Any artery of the scrotum which bleeds is to be tied; and a suture is then made to bring the edges of the diminished scrotum together. The patient should be kept for a few hours in the recumbent posture to prevent any tendency to bleeding; and then a suspensory bag is to be applied, to press the testis upwards, and to glue the scrotum to the surface.

The only difficulty, in the operation of removing the scrotum by excision, is in ascertaining the proper quantity to be removed; but it adds but little to the pain if a second portion be taken away, if the first does not make sufficient pressure on the spermatic cord. It is of no use to remove a small portion of the scrotum, for from doing this I have failed. When the wound has healed, the varicocele is lessened, but not always entirely removed; but the pain and distressing sensations cease, if sufficient of the scrotum be removed.

In making the suture in the scrotum, its lower part is to be brought up towards the abdominal ring, to raise and support the testis; as does the suspensory sling when it is worn."

Sir Astley relates four cases, in which he, and one in which Mr. Key performed the operation. All the cases were attended with very beneficial results. Sir Astley observes in conclusion:—

"I wish it to be recollected, that I only recommend the removal of a portion of the scrotum in those cases of spermatocele in which the patient suffers great local pain; in cases in which he is most urgent to have the swelling and deformity of the part removed; and more especially in those instances in which the function of digestion suffers, and there is a great degree of nervousness and of mental depression. For slighter cases, a suspensory bandage must be still recommended."

III. ON A MORBID FLATTENING OR COMPRESSION OF THE LEFT BRONCHUS PRODUCED BY DILATATION OF THE LEFT AURICLE. BY J. W. KING.

"A particular morbid effect," says Mr. King, "which, as far as I am informed has not been made known, and which, as I believe, is of rather common occurrence, is the flattening and obstruction of the left bronchus, when the left auricle is dilated so as to press upon this air-tube. Our Collection affords three specimens of this affection; and I think I may say, I have remarked it many times, in different degrees."

Mr. King relates four cases, but one will be sufficiently illustrative of the fact they are intended to exhibit. We shall pick out the third case.

Case. Lydia P., aged 21, was under Dr. Cholmeley's treatment during two months, for a general dropsical affection, which was referred, in part to an enlarged liver; there was evidence, however, of chest disease. She was ill altogether twenty months. She died with most parts of the body oedematous.

Some little effusion was found in the abdomen, and but a little in the thorax, with recent traces of pleuritis on both sides.

Both auricles of the heart were greatly dilated, and somewhat thickened: the left was the more capacious. The right ventricle was thick and very large, and

the free edges of the tricuspid curtains thickened, and perhaps contracted. The dimensions of the left ventricle were more natural; but it was too capacious and rather hypertrophic. All the substance of the heart was rather flabby, tough and dark. The mitral curtains and cords were very much thickened and contracted, also firm and yellowish—certainly, the valve could scarcely close well. The lining of the left auricle was opaque, thick and uneven. One lung was turgid, dark, and œdematous; the other was, in addition, more fleshy and lacerable, and contained several small, firm, dark, apoplexies, indistinctly bounded. Both lungs were most affected posteriorly, and their bronchial lining was much injected; the contents dark, foamy, and abundant. The left bronchus, behind the ventricle, was evidently greatly flattened. The liver was rather large, pale, coarse and fleshy, and the spleen small, firm, and darkish.

The other cases are, more or less, of the same description. In none were there distinctive respiratory signs or symptoms of the bronchial flattening, nor indeed, would they be of much service if they existed. Mr. King concludes:—

“That the first evident degree of change is that when the anterior surface of the tube in question forms a wide and simple plane. It can scarcely be questioned, when the tube is diminished to two-thirds, or one-half of its natural calibre—independently of permanent or transitory affections of the lining—that its defect is a very important item among the thoracic obstructions in any given case; but unless the narrowing were still more complete, a specific indication is scarcely to be looked for. I have seldom found the tube reduced to less than one-half of its natural extent; and I would merely observe, that the little advantage derivable from these notes probably depends on the illustration they afford to the general progress of diseases.”

IV. ACCOUNT OF A VERY LARGE CALCULUS, PASSED BY A YOUNG WOMAN, WITHOUT OPERATION.

Mary B., aged 18, a patient of Mr. Harris of Redruth, had suffered for seven years from symptoms resembling those of stone in the bladder. After a time, the symptoms grew more severe, and a sanguineous and purulent discharge made its appearance in the urine. Her health suffered materially.

Whilst she was sitting upon a pot-de-chambre, endeavouring by very forcible efforts to discharge her urine, and which exertions she continued for ten minutes, the calculus passed with violence into the recipient vessel.

After the stone had thus escaped, she immediately began to recover; but her health was not perfectly re-established for twelve months.

The menstrual secretion shewed itself for the first time three months after this occurrence.

Analysis of the Calculus, by Dr. Rees.

Length	2 $\frac{3}{4}$ inches.
Breadth	1 $\frac{1}{8}$
Thickness	1 $\frac{1}{4}$
Weight .. ..	.651 grains.
Nodule adherent to the calculus ..	Oxalate of lime and fusible calculus.
Body	Fusible calculus.
External porous layer	Ditto.
Darker lines observable in the body of the calculus ..	Lithate of ammonia.

The nucleus consists of a porous substance, with lithates of ammonia and soda deposited within it. The porous body consists of phosphate and carbonate of lime, and animal matter. On exposing it to the action of boiling water, and afterwards to that of dilute nitric acid, a spongy matter remained undissolved which retained the form of the nucleus. It seems highly probable that this central substance is bone.

V. ON THE EFFECT PRODUCED UPON THE PULSE BY CHANGE OF POSTURE.
BY WILLIAM AUGUSTUS GUY, M.B. CANTAB.

There is a paper on this subject compiled with great care from many and well conducted experiments. The paper is of too elaborate a description to permit us to enter into its details, and all that we can do is to present the summary given by our author, Dr. Guy, of the facts which he seems to have made out. The summary in question is short, but sufficiently explicit. Those who are anxious to become acquainted with the data upon which it has been founded, will do well to consult the original paper. That is essentially of a numerical character.

1. In healthy males of the mean age of 27 years, in a state of rest, the number of the pulse is, Standing 79, Sitting 70, and Lying 67; the difference between standing and sitting being 9 beats; between sitting and lying, 3 beats; and between standing and lying, 12 beats. When all exceptions to the general rule are excluded, the numbers are, Standing 81, Sitting 71, and Lying 66; the difference between standing and sitting being 10 beats; between sitting and lying 5 beats; and between standing and lying 15 beats. The same differences expressed fractionally, are as follow, inclusive of exceptions; 1-9th, 1-20th, 1-6th; exclusive of exceptions, 1-8th, 1-13th, 1-5th.

2. The extremes are very remote from the mean results. Thus, the greatest difference between standing and sitting is 1-4th, the least 1-19th, of the frequency standing; the greatest difference between sitting and lying is 1-4th,; the least 1-16 of the frequency sitting; whilst between standing and lying, the difference may be somewhat less than one-half, and as little as 1-14th, of the frequency standing. The greatest difference observed amounts to somewhat less than one-half of the frequency standing.

3. The exceptions are as follow:—To the general law, that the pulse is less frequent sitting than standing, there is 1 exception in 12 experiments: to the general law, that the pulse is less frequent lying than sitting, there are 3 exceptions in 10 experiments: to the general law, that the pulse is less frequent lying than standing, there is 1 exception in 14 experiments. The total number of instances in which 1 or more exceptions to general rules occurs, is 34, or somewhat more than 1 in every 3.

4. The effect produced by change of posture increases as the frequency of the pulse increases.

5. The exceptions to the general rule are more numerous as the pulse is less frequent.

6. The effect produced upon the pulse by change of posture is due to muscular contraction.

7. Muscular contraction, whether employed to change the position of the body, to maintain it in the same position, accelerates the pulse; and the effects produced by change of posture form but a particular case of this more general law.

VI. ON HÆMORRHAGE FROM THE UNIMPREGNATED UTERUS, ASSOCIATED WITH TUMORS OF VARYING DEGREES OF INDURATION AND MALIGNANCY.
By S. ASHWELL, M.D.

Dr. Ashwell, a zealous cultivator of his own department of science, details five cases in the present Paper, for the purpose of proving what he deems a rather novel fact; viz, that hard or fibrous tumors of the uterus, by many pathologists not regarded as malignant, may occasionally give rise to frequent, exces-

sive, and fatal hæmorrhage. Dr. Ashwell subjoins the following points as important, in reference to these uterine tumors :—

1st—They commence in the parenchyma of the organ, or, in other words, in the substance included between its peritoneal and mucous coverings, in closer proximity to the mucous than to the peritoneal coat. Hard or fibrous tumors are more commonly deeply imbedded in the substance of the organ, and in closer proximity with its peritoneal covering ; which, when they grow externally, their most common mode of increase, continues to invest them, however considerable their bulk. Hence they so rarely bleed.

2dly—When these tumors produce the hæmorrhage now described, they grow internally ; not imbedding themselves in the walls of the uterus, and advancing towards its external or peritoneal coat, but their increase in size, distending the uterine cavity ; and not only stretching and irritating the mucous membrane (thereby altering its condition and deranging its functions, and especially augmenting the quantity of the catamenial secretion), but also giving rise to morbid growth of this tissue.

“3dly—It is observed, when these tumors can be touched during life, that they are sensitive and painful, unlike polypi : and after death they are found to possess, either a laminated structure, with the hardness and the white lines indicative of a fibrous tumor ; or, very occasionally being removed altogether from morbid growths of this class, they may have the stony hardness of real scirrhus or the heterologue structure indicative of decided and undeniable malignancy. It is rare to find these hard and fibrous tumors thus encroaching on the uterine cavity. In Guy’s Museum there are many preparations illustrative of organic uterine disease. In thirty examples of hard fibrous tumors, there are only three at the most four, where the growth is so placed ; while there are twenty-six examples of such tumors imbedded in the various parts of the sides or walls of the organ. Thus it may, I think be assumed from the data now adduced, as well as from the general descriptions of these tumors, that the location of them now mentioned is exceedingly unusual ; and, if I am right in my subsequent opinions, hæmorrhage from such growths will, of necessity, also be unusual. Cruveilhier and Dupuytren have probably been misunderstood by those who suppose that they regarded such an event as frequent. Certainly, if this be their conviction, it is opposed to the opinions of most pathologists.”

It is to be regretted that the preceding observations are anything but lucid. The antecedent is so often shifted, that it is difficult to father it upon the relative, and it is hard to say exactly what Dr. Ashwell means to say, or wishes us to understand. We confess that we are at a loss.

The succeeding remarks are sufficiently clear, and of much practical consequence.

“Discharge of blood therefore from the uterus, continuing longer than the common losses connected with catamenial derangements, may arise, not alone from an inflammatory or congested condition of the viscus itself, independently of organic change of more than ordinary severity and protraction, from polypi, or from growths more decidedly vascular and malignant, but from hard or fibrous tumors. It is well known how rarely these growths ulcerate, excepting when they occupy the mouth or neck of the uterus ; and it is still more uncommon for them, when imbedded in any part of the walls, to bleed : although I am certainly aware, that in any situation, the processes of unhealthy softening, or degeneration, and purulent secretion, with hæmorrhage, may occur. But it is a fact recently established, that these more or less hard, and occasionally malignant growths, so different in many particulars from the genuine uterine polypi, may, by having commenced, in the first instance, just behind the mucous membrane, induce morbid distention and growth of this tissue, and, by congestion and inflammation, give rise to bleedings of a continued, alarming, and fatal character : and further, after death, that this same mucous membrane may be

discovered entirely free from ulceration, or even abrasion : thus tending to confirm an opinion—which, I confess I entertain—that the bleeding is principally, if not entirely furnished by the tissue covering the surface of the tumor, rather than by the tumor itself.

The peculiarity of these examples consists in the occurrence of the bleeding prior to ulceration. So that we must always bear in mind, in hæmorrhage from the unimpregnated uterus of unusual frequency, resisting the most judicious and persevering treatment, that there may be a tumor of the kind now described, distending the cavity, and out of the reach of the finger, maintaining so congested and inflammatory a condition of the mucous membrane, as almost to render these bleedings necessary for its partial relief."

Dr. Ashwell goes on to observe that a great affinity exists between hard and fibrous tumors and uterine polypi, nay, that the former are said to be not unfrequently converted into the latter simply by descent, and the consequent formation of a stalk. Dr. Ashwell does not deny the affinity between the diseases, but he scarcely can credit the latter position. No specimen of such a change exists in Guy's Hospital Museum. That one of these hard fibrous tumors, he goes on to say, may very rarely find its way into the uterine cavity, is allowed, because the statistics of the disease prove it; and that prior to the patient's life or her powers being destroyed by the bleedings which, in this situation, the tumor may occasion, the growth may, as a *most unusual* occurrence, descend to the lowest part of the uterine cavity, distend and pass through its cervix, and ultimately find its way into the vagina, may also be conceded; but it will be a hard or fibrous tumor still; although its altered situation, and the bleedings attendant upon it, may justify and even demand its removal by the same means as in polypus.

Induration of texture is usually much more distinct in the hard fibrous tumor of the cavity than in the polypus, while the white membranous lines are much more defined and striking in it.

Many hard tumors commonly exist in the same uterus. It is rare to find more than one polypus.

In the method of growth there is a conspicuous distinction. The polypus, probably because it is not malignant, does not affect the organization of surrounding parts; the muscular walls of the uterus, being rarely thickened, however large may be the polypus. The hard tumor, on the contrary, may, and often does, convert, by degrees, the uterus in its vicinity into its own diseased structure.

The internl tissue of many polypi is cellular and spongy, and copiously permeable by blood. This is not the case with the hard or fibrous tumor.

"I was much struck, a few days ago, by a preparation in Bartholomew's Museum; where a hard tumour, imbedded in the walls, had received no injection, although the vessels in every other part of the uterus were beautifully filled—a circumstance lending something more than probability to the opinion I have just now expressed, that the hæmorrhage, in these instances, is furnished by the membrane covering the tumour, and not by the growth itself: while in the polypus probably, with very few exceptions, the bleeding occurs from the vessels in its structure; as is satisfactorily proved by its texture, and by the difficulty of getting any mercury, or other injection retained in its vessels, however carefully it may be thrown in. In the polypus injected by Mr. Sibson and myself, the mercury quickly escaped through the orifices of the vessels opening on its surface.—Sir Charles Clark affirms, that if coloured injection be thrown into the vessels of the uterus so as to make the substance of the uterus quite red, none of it passes to the tumour of fleshy or hard tubercle."

True polypus is almost invariably bereft of sensibility. The fibrous tumor is never entirely so.

Pregnancy may and often does occur in connexion with hard or fibrous
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tumors; rarely, if ever, when there is polypus, except where the growth arises from the cervix or os.

There is no remedy for polypus but removal. But Dr. Ashwell informs us, that—"a hard or fibrous tumour has once, in my own practice, disappeared without the use of any medicine: and Sir Charles Clark mentions a similar case, 'where the tumour, as big as a child's head, could be felt through the parietes of the abdomen, just above the pubes: upon its surface could be felt two smaller tumours: one, the size of a man's fist; and the other twice this size.' The patient had laboured for some time under a very profuse discharge of blood from the vagina. A variety of means were employed for the relief of this case, for two years. Upon examining the abdomen at the end of this period, the tumours could not be discovered; and after death, the uterus was found as large as that of a woman at the end of the fifth month of pregnancy. Upon the anterior part of it, near the fundus, were found two small tumours, as large as peas; which were probably the same tumours before felt, of the size above mentioned; as there was no other vestige of them. These tumours were of a hard and resisting nature; and were lying between the muscular part of the uterus and the peritoneum covering it."

Such are the diagnostic marks laid down by Dr. Ashwell between the fibrous tumour and polypus of the uterus. Some are more, some less satisfactory, and it may be doubted whether any establish a true generic difference between the fibrous tumor and the former kind of polypus. But for all practical purposes they certainly are distinct maladies. The following are our author's sentiments upon their treatment.

"The ligature can scarcely be expected to produce equally satisfactory results in both diseases. The sensibility of the hard tumour, and the probability there is that a portion of the uterine structure shall be included within its grasp, will induce less favourable anticipations of decided benefit from its use. The hæmorrhage is almost invariably and permanently restrained, in polypus, by the application of the ligature; but the implication of other portions of mucous membrane than the part of it covering the hard tumor, may still maintain continued, although diminished, loss of blood.

The treatment of these cases is far from satisfactory: palliation, in most, is all which can be expected: still, the certainty in some instances, and the great probability in others, that the hæmorrhage depends on these growths will lead to more careful and protracted management. Entire abstinence from sexual intercourse—as well to avoid the certain and great danger of pregnancy, as the great yet lesser evil of excitement—must be rigidly enforced. A patient known to be thus affected, ought for years to practise such a degree of self-denial. The recumbent position, and modified but continued antiphlogistic measures, will often be demanded; and the diet, although nutritious, should never be generous and stimulating. A practitioner in these maladies will be cautious how he employs the secale, as an injection, or as an internal remedy. In my hands, it has appeared to stimulate the mucous membrane, and to increase the hæmorrhage. Narcotics, especially in the form of suppositories, have been beneficial; and the poppy and conium injections into the vagina, used cold, have appeared to restrain the bleeding. An aperient, and occasionally a purged condition of the bowels, has had a similar effect. After repeated and extensive hæmorrhage, these and other measures must be strictly pursued: nor will a disease of this nature allow the sufferer to indulge in much physical or mental exertion.

Life, in most instances, where the disease is early discovered or suspected, may be prolonged; and perhaps with a good measure of quiet and passive enjoyment, if the plan now prescribed be sedulously pursued; but on no other terms. It is possible that the tumor may temporarily cease to grow, and that the investing membrane for such period may not be the subject of repeated congestion and inflammation. Such appears to have been the result in Case, No. 1. More

commonly, however, palliation and particular exemption from the bleeding is the extent of the benefit obtained.

How far iodine, aided by mild antiphlogistic treatment, may accomplish a suspension of the diseased action, I do not know; but I am favourable to its employment; nor can I think it impossible that this same agent may induce absorption."

As we observed, five cases are reported. But the generalizations on them, which we have noticed, will be sufficient for our own and our readers' purposes. Dr. Ashwell is zealous, intelligent, and practical. His observations always merit attention, and his opinions will be heard with respect.

BIRMINGHAM TOWN INFIRMARY.

REPORT OF THE OUT-PATIENTS ATTENDED BY F. RYLAND, Esq., between the 25th Dec. 1835, and the 25th Dec. 1836.*

THE total number of cases attended in the period embraced by the Report was 1932. Of these cases 112 proved fatal. The Tables accompanying the Report, indeed, in a great measure composing it, are too voluminous for insertion here, and we shall merely pick out such remarks of Mr. Ryland's as appear to us to be interesting.

A. Mr. R. observes, that the general features of the report for 1836 resemble in a striking degree those of the reports for preceding years; the relative number of patients affected by diseases having their origin in what may be considered as external causes, such as atmospheric vicissitudes, particular occupations, or the indulgence in certain habits of life, exhibit only trifling changes from year to year; whilst in those diseases which are produced by the unascertained causes of an epidemic, each succeeding year presents to our notice great changes in the relative numbers of those attacked, and of those who become their victims.

Rubeola.—In 1835, one case of measles only was recorded, and that terminated favourably. In the present report there appear a hundred and six cases, of which nineteen, or 1 in about $5\frac{1}{2}$, had a fatal termination. The causes of this mortality were various, but the most prominent was gross neglect on the part of the parents of the children attacked. The uneducated classes in Birmingham consider the eruptive fevers, especially measles and small-pox, as evils to which their children were born subject and through which they must necessarily pass, and in consequence of this impression they seldom seek for medical assistance during the progress of these diseases till the danger is too imminent to be avoided. Another cause of the mortality of the epidemic under consideration was the simultaneous existence of whooping cough with the measles.

A third cause of the great mortality of the cases of measles was their complication with the pellicular inflammation of the fauces, pharynx, and larynx, called *Diphthérite* by M. Bretonneau. The instances in which this complication existed were numerous, and its effects were very fatal. Three children in one house were successively attacked by measles, followed by *diphthérite*; they all died within five days from the time of the appearance of the eruption.

* Transactions of the Provincial Medical and Surgical Association. Part II. Volume VI.

Mr. Ryland had one opportunity of examining a case of this kind after death.

Case. J. O. aged 5, broke out with the measles on the 8th of June. Two days afterwards Mr. R. saw him. The measles still continued out, the bowels were relaxed, the breathing accelerated and attended with a mucous rattle; the countenance was anxious, the extremities cold, and the pulse small; there was also a great difficulty of swallowing, a hoarse cough, and almost total suppression of the voice. Membranous concretions were observed on the roof of the mouth, but the back of the fauces could not be seen. The child died in the afternoon of the following day.

Dissection, thirty-nine hours after death.—The jugular veins were distended with fluid blood; the sub-maxillary glands were considerably enlarged. There was a thin ash-coloured membranous exudation upon the uvula, upon that part of the pharynx which is contiguous to the larynx, upon the laryngeal surface of the epiglottis, and upon the lips of the glottis as far as the margins of the ventricles of the larynx. In the last mentioned situation, the false membrane adhered rather firmly, in the other places it was but loosely connected with the subjacent parts. The mucous membrane of the epiglottis was thickened and slightly injected, that of the lips of the glottis and ventricles was much reddened. The trachea exhibited but little traces of inflammation. The lungs collapsed but imperfectly; they were in a state of sanguineous congestion, but not inflamed. The false membrane had not passed down the œsophagus, nor did the bowels exhibit any marks of disease.

Many cases of *diphthérie* in its early stages, when the albuminous exudations were confined to the tonsils, the uvula, and the palate, were speedily relieved by the topical application of a strong solution of alum, and the internal use of calomel and antimonial powder; but those cases in which the disease had reached the larynx previous to the calling in of medical aid, were universally fatal.

c. *Scarlatina.* In the two last quarters of the year 1835, there were ninety-four cases of this disease; in the first quarter of 1836, there were twenty-five cases; in the second quarter, ten cases; and in the third quarter, five; shewing the gradual subsidence of a widely spread and fatal epidemic. One half of the deaths from scarlatina occurred previously to the middle of January.

d. *Variola.* The cases of small-pox have been six times as numerous in 1836 as they were in the preceding year; more than half of them occurred in the winter quarter. The deaths are to the cases in the proportion of one to nine.

e. *Erysipelas extending to the Larynx.* G. B. aged 52, shoemaker, was attacked with erysipelas of the face, on the 10th of August. On the 14th, when the inflammation in the face had slightly diminished, the patient complained of dryness and heat about the fauces, and difficulty of swallowing; no pain or pressure in the laryngeal region; pulse frequent and weak. On the 16th, the external erysipelas had extended along the front and sides of the neck; there was great pain and difficulty in swallowing; voice weak and hoarse; occasional short cough, producing pain in the laryngeal region. At mid-day of the 17th, the patient was evidently sinking fast; the respiration was croupal, the voice reduced to a scarcely audible whisper; he could only swallow a teaspoonful of anything at a time, and a short hacking cough followed every attempt of the kind. He became comatose, soon after Mr. Ryland saw him, and died at midnight.

Dissection, fifteen hours after death.—The mucous membrane of the pharynx was inflamed, and upon it were two patches of coagulated lymph, beneath which the mucous membrane was much injected, and of a dark red colour. The œso-

phagus was healthy. The epiglottis was very much thickened, and its edges were curved backwards towards the cavity of the larynx; the membrane investing its anterior face was very tumid, of a bright red colour, and the sub-mucous tissue was infiltrated with serum. The membrane lining the posterior or laryngeal face of the epiglottis, and the whole of the mucous membrane of the larynx above the superior ligaments of the glottis, were covered with a layer of lymph, which, on being scraped off, shewed the surface beneath of an uniform dark red or nearly purple colour. The aryteno-epiglottic ligaments were thickened. The remainder of the mucous membrane of the larynx and that of the trachea were injected and covered with mucus, but the acute inflammation had not extended below the superior vocal ligaments.

F. Strangulated Hernia. Rather a curious case is detailed by Mr. Ryland.

Case. Mrs. E. æt. 86, a stout old widow, of active habits and strong constitution, had been the subject of femoral hernia on the right side for about twelve months, but had never worn a truss, and sometimes the swelling in the groin had gone up, though it was generally more or less down. It had, however, never given her any uneasiness till the 13th of March, when it suddenly increased in size, soon after which vomiting began, and the bowels became painful and constipated. Mr. R. was not sent for till the 17th; the hernial tumour was than as large as an orange, ovoid in shape, tense, rather sore, and quite irreducible. The bowels were not distended; they had not been opened since the 12th, except very slightly on the morning of the 14th: there was tenderness in the right iliac region. An enema containing castor oil was immediately administered, which brought away a large quantity of fæces, and purgatives were given by the mouth, but they were returned almost instantly; every thing that was swallowed induced vomiting. The operation was proposed and strenuously urged, but the patient and her friends would not listen to the suggestion. For the two or three following days the glysters were continued, and cold applications were used to the tumor, at the same time that gentle attempts were made to reduce the hernia. These measures were quite unsuccessful, and the patient remained unable to retain any thing upon the stomach except cold water, and gin and water, which were kept down for a few hours and then returned. A large quantity of fæcal matter was vomited. She continued in this state for many days, getting gradually weaker, but suffering no pain from the hernia, and only a little occasional uneasiness in the bowels.

On the 6th of April, the twenty-fourth day of the strangulation, she complained of hunger, and said she was being famished to death; to prevent which melancholy catastrophe she ate heartily of bread and cheese, and drank some beer, all of which she relished exceedingly. At four o'clock on the following morning, (the 7th) she passed a large quantity of flatus, and speedily afterwards a copious fæcal evacuation, of healthy appearance and of moderate consistence; and in the course of the same day she had three other motions, not quite so large as the first, but amounting altogether to a chamber-pot full. After this she became exceedingly low, and refusing all medicine, asked for gin and water. She gradually recovered completely. The hernial swelling diminished greatly in size and felt hard and rather lobulated, as if it were composed entirely of omentum.

G. In referring to the tables he has published, Mr. Ryland directs attention to the extreme fatality of infantile diseases. Of the four hundred and sixty-four patients under five years of age, fifty-eight died, giving a proportion of one death to every eight cases at that period of life. Of the remaining one thousand four hundred and sixty-eight patients, fifty-four only died, giving a proportion of one death in every two hundred and seventy five cases in persons above the age of five years.

Of the fifty-eight deaths in children under the age of five years, twenty-nine or one half were caused by the *exanthematous* diseases; fifteen by affections of the lungs and air-passages, four by convulsions, three by fevers, two by dysentery, and the remaining five by chronic disease and accident.

Of the fifty-four deaths in persons above the age of five years, only five were occasioned by the exanthematous diseases, whilst twenty-seven or one half of the whole were caused by diseases of organs contained within the chest.

H. Mr. Ryland attempts a generalization upon some tables of the occupations of the patients. That generalization is an imperfect one, but it is an attempt.

He divides the occupations into those necessarily attended by frequent exposure to the weather; those attended by continual exposure to the heat of a fire; those in which the work is performed in covered shops, and those of a sedentary nature.

		Bronchitis.	Chr. bronchitis.	Constipation.	Dyspepsia.	Phthisis.	Rheumatism.	Synochus.	Total.
Out-door occupations	Males	6	3	3	0	1	14	8	35
	Females . .	6	6	2	9	0	11	3	37
Occupations exposed to heat, Males	Males	7	9	2	6	0	13	3	40
	Females . .	25	27	4	13	12	26	21	128
Occupations carried on in covered shops	Males	25	11	17	59	2	15	31	160
	Females . .	0	4	0	3	4	5	1	17
Sedentary occupations	Males	9	7	5	25	0	11	9	66
	Females . .								
Total		78	67	33	115	19	95	76	483

On the whole, Mr. Ryland deserves great credit for the pains he has taken with this and with preceding reports.

BIRMINGHAM DISPENSARY.

A REPORT OF CASES TREATED FROM JANUARY 1st, 1837, TO JANUARY 1st, 1838. By T. OGIER WARD, M.D. Physician to the Birmingham Dispensary.

It appears that, during the year 453 cases were treated. Of the patients, 156 were males, and 297 were females. Of the males 18 died—of the females 13. Dr. Ward must be favourably known to many of our readers, as a zealous and intelligent physician. We have not space for his entire Report, and we shall merely introduce one or two interesting facts it.

A. *Treatment of Amenorrhœa.* "In addition to the symptoms of dyspepsia, pulpitations, &c., almost every case of amenorrhœa, whether depending upon a plethoric or anæmic state of the system, was attended with more or less headache. In the treatment of this most distressing symptom, I have been guided less by a regard to the constitution of the patients, than by attention to the effect of the recumbent posture in alleviating or aggravating the pain; such patients as are relieved by lying down being almost invariably benefited by antispas-

modics and tonics, particularly iron; while those who sleep with the head raised and whose eyes are swelled in the morning, require depletion local and general."

B. *Occurrence of Fever from Putrid Exhalations.* In a preceding report Dr. Ward had stated that the number of fever patients for fifteen months was thirty-two. But in the present report, from a different district of the town, there are three deaths out of a similar number of cases, the character of which, however, was much more severe, two-thirds of them being continued fever. The river Rea, that separates Birmingham from its suburb Badesley, and serves as a "cloaca maxima" to both, carries its filthy stream onward, partly to turn a mill, and partly to fill a mill-pond, while the surplus is carried away over some flood-gates by a black stream parallel to a street which it separates from the mill-pond. During the drought that prevailed last year, the water was very low in the main stream and mill-pond, and the mills not being regularly worked, it became quite stagnant and offensive: the back stream also became dry, and shewed its mud banks, that were only occasionally wetted by a flush of the washings of the town after a shower, or by the small surplus accumulated during the cessation of the mills. The exhalations from the half dried mud and putrid water were so disagreeable at night as to nauseate the more delicate inhabitants of the adjoining streets, and soon produced disease in the form of typhoid fever of an infectious character. Dr. Ward thinks there must have been not far short of fifty cases in all. He had seventeen under his own care, thus distributed; in one yard that looked upon the back stream, there were three slight cases in one house, all children; two severe cases in another house, a father and son, the latter of whom died; in the front house at the top of the yard were three children severely, the mother slightly, and a young man fatally affected; another mild case occurred in a child on the opposite side of the street; and a more severe one in another child at a distance along the river side; lastly, there were six cases, five of them most severe and one fatal, all in children, and one mild case in a girl, all in two adjoining houses on the bank of the river. Still lower down the stream, where the water was as black as ink, there were thirteen pauper cases in one yard, and many others, both pauper and private, along the same line. At the other side of the town, round the Soho works, where the same causes existed, fever broke out about the same time, and has continued in a very fatal form.

Dr. Ward remarks that, in Birmingham, every family, with very few exceptions, occupies a separate house. There is a difference of nearly two hundred feet in the elevation of different parts of the town, the highest points being almost five hundred feet above the mean level of the sea; and the surface is so undulating, that the drainage is excellent in every part. The street and courts or yards in which the mechanics live are wide and airy in general; fuel is cheaper than in any other large town in England; the water used for drinking and for culinary purposes is excellent, and till within the last year there has been but little distress. Except the pearl and lead works, there are very few injurious occupations extensively carried on in Birmingham.

The type of fever was that of typhus mitior of Cullen, or the *affection typhoide* of Louis and Chomel, the most urgent symptoms being cough and diarrhoea, particularly the former. Of the seventeen cases above mentioned, eleven were below the age of twelve. The three fatal ones were a young man aged 23, a boy aged 11, and a child 1½, all of whom exhibited exactly the same lesions after death, viz., extreme congestion of the lungs, with here and there portions of red hepatization, the whole of the affected parts being softened; the bronchi red, thickened, and filled with thick mucus; the mucous membrane of the stomach injected, thickened, and softened; the same appearances in the duodenum of the two elder, with great development of the mucous follicles; the glands of Peyer prominent, and covered with sloughing ulcers, particularly at the cæcal

valve; the mesenteric glands opposite the ulcerations much enlarged; the glands of Brunner enlarged and ulcerated; and the rest of the viscera healthy, but congested, except the spleen, which was softened also.

c. Death after five weeks from perforation of the intestines. A lad, aged 15, felt unwell from the 17th of August to the 24th, when he applied for relief. He took an aperient powder on that day, and on the 26th. Soon afterwards he complained of a fixed violent pain in the right side of his belly, which rapidly extended, while that part of his abdomen became exquisitely tender. His symptoms continued with variations and intermissions, till Oct. 3, when he died. The symptoms were pain and tenderness of the abdomen, particularly on the right side, aggravated by occasional spasms, fever, frequent vomiting, constipation, sat doubled up on a chair, as that position gave him most ease: and he was able to go down stairs the day before his death.

On dissection, there was fecal matter in the peritoneal cavity, and there were the usual marks of peritoneal inflammation. Many ulcers with elevated edges everted externally, and penetrating its cavity, were seen on the colon. The stomach and bowels were removed and laid open. The former was injected, and its mucous membrane was softened, but that of the intestines was healthy throughout, excepting in places opposite to the external ulcers, where it was softened and perforated, forming a thin floating edge or fringe to the ulcers, but with the exception of one instance, where the perforation was two inches long by one inch and a half wide, it was as tough as natural round the ulcers; here however, it was injected and pulpy. There were four perforations in the right colon, varying in size from the largest just mentioned to half an inch in diameter, all having thickened or everted edges towards the peritoneal surface; and, besides these, there were several others laid open by the scissors is running them along the bowels. The solitary glands of the colon were enlarged, but not ulcerated. Peyer's glands were very distinct, and were spotted with black dots, but were not ulcerated in any part. The mucous glands of the vermiform process were much enlarged; and the process itself was almost divided in two parts by ulceration at about an inch and a half from its extremity. It was separated with difficulty from the matted mass of intestines.

Dr. Ward observes, and we agree with him, that there can be little doubt of the perforation of the intestine having occurred at the time of the first attack of abdominal pain.

BIRMINGHAM EYE INFIRMARY.

A REPORT OF THE CASES ATTENDED DURING THE YEAR 1837. By
R. MIDDLEMORE, Esq.

Setting aside the numerical returns, we shall quote some of the principal facts, specifically mentioned by Mr. Middlemore.

A. Ossification of the Crystalline Capsule

Mary Larkin, aged 60, received a blow upon the right eye about eight years ago, which deprived the organ of sight, but did not leave behind any manifest defect of any other description. About six months since she complained of great pain in the eye, and, on examination of the part by her surgeon, Mr. Oates, of Sutton, the lens, surrounded by an ossified capsule, was found to be dislocated.

Nov. 1, 1837.—She complains of intense pain above the eye-brow, upon the cheek bone, and towards the nose. The forehead is acutely painful, and also the back of the head on the affected side.

There is a slight zonular arrangement of vessels around the cornea, which is occasionally much increased, and it is manifest that she has suffered for some weeks past from chronic iritis. Immediately behind the cornea there is a globular body obviously covered by a white membrane, interspersed with dense yellowish-white spots; the iris is pressed backwards by the presence of this body in the anterior chamber: it was evidently the lens within the anterior chamber and surrounded by its capsule, the anterior hemisphere of which was converted into bone, but being more perfectly ossified at one part than another, the mottled and irregularly and densely dotted appearance mentioned was perceived. The removal of the ossified part was proposed, and, on the 18th was performed, by a section of the lower part of the cornea.

The lens was of an amber colour, and was not very opaque; the posterior capsule was scarcely thicker than usual, and nearly transparent, but the anterior hemisphere of the capsule was almost entirely converted into a smooth plate of bone, except near the margin of the union between the anterior and posterior hemispheres of the capsule, where it constituted a rugged ring of bone.

The patient did well, but the sight of the eye was entirely destroyed.

B. *Treatment of Staphyloma of the Cornea.*

“James Shephard, æt. 24, sustained a severe injury to the face some months ago, which produced collapse of the right, and occasioned the following condition of the left eye:—Two-thirds of the cornea at its lower part has become prominently staphylomatous; the pupil is closed, and the iris is adherent to the upper part of the staphyloma. The eye-ball is a good deal inflamed. The objects it was desirable to accomplish in this case were, first to lessen the size of the staphyloma; second, to remove the ophthalmia; and third, to form an artificial pupil.

As one fourth of the cornea, and a corresponding portion of the iris were healthy, it was, I repeat, desirable to make an effort to form an artificial pupil; but, of course, before this was attempted, it was necessary to cure the staphylomatous projection by some method which would not endanger the occurrence of atrophy of the eye-ball. The use of the seton was improper on account of its great liability to produce a degree of inflammation adequate to affect injuriously the corneal or iridal texture; and the removal of the projecting part by ligature or the knife was improper, by reason of their direct tendency to cause collapse of the eye-ball. The repeated tapping of the part, by means of a fine iris-knife, was not open to this objection, and, although a mode of treatment not generally to be recommended for the treatment of staphyloma, was in this instance adopted, and with perfect success; so that this person's eye is now in a fit state to be operated upon for artificial pupil.”

Mr. Middlemore goes on to remark?—

“In all cases of partial staphyloma of the cornea where it is desired to leave the eye in a condition to permit the formation of an artificial pupil, in all instances where it is specially important to avoid the displacement of the lens, and the risk of producing atrophy of the globe, the operation of tapping is to be preferred, but on account of its tediousness, and its frequent inadequacy, it is not adapted to the cure of the large and extensive variety of staphyloma, or, indeed, of any form of staphyloma the walls of which are much thickened. These last varieties of staphyloma are best treated by the removal of a small portion of the most prominent and attenuated part, as formerly explained; but, instead of using Beer's extraction knife, I now prefer to employ one the blade of which resembles the ace of spades, only narrow in proportion to its length, and having a cutting edge on either side—a sort of double Beer's knife, one edge of which, when the point is introduced within the cornea, is opposed to its upper, and the other to its lower margin.”

c. Fistulous Opening communicating with the Anterior Chamber.

Mary E. received a blow from a cork, which was forcibly projected against the eye. In a few days afterwards, there was a small, nearly transparent tumour just without the margin of the cornea, which contained a small quantity of aqueous fluid. On its removal, by a minute opening made with the point of a fine needle, it soon reappeared, and the iris appeared somewhat narrower on the side of this little vesicular enlargement. No astringents caused its contraction, and when opened with a small needle, it soon filled again. Subsequently, Mr. M. applied the nitrate of silver to the part, the small swelling gradually diminished, and has not since reappeared.

This description of tumour, observes Mr. M., sometimes occurs after a small but penetrating wound at the corneo-sclerotic junction, and may either be produced by the protrusion of the membrane of the aqueous humour, or, as in this instance, by the passage of a minute portion of the aqueous humour beneath the conjunctiva. The application of the nitrate of silver to the part, after the evacuation of its contents, is usually adequate to its cure.

d. Dislocation of the Lens through a Rent in the Sclerotica, beneath the Conjunctiva.

W. M., æt. 21, received an injury of the right eye from a cow's horn. Four months afterwards, the eye was in the following condition:—the cornea was slightly nebulous, and somewhat conical; the anterior chamber enormously large (almost amounting to dropsy of that part); the iris was wanting at its superior part, so that the pupil resembled that of an eye in which the upper section has been made for the extraction of cataract, the surgeon having shaved off a portion of the iris in making the incision; and there was a blue mark just behind the corneo-sclerotic junction, shewing that the sclerotica, perhaps, also, the conjunctiva, had been ruptured at that part. The man could see moderately well without spectacles, but his sight was not much improved by the use of double convex glasses.

"The form of dislocation of the lens from which Manton suffered, is by no means one of frequent occurrence. It has fallen to my lot to see too instances in which the lens has passed through a rent in the sclerotica, and lodged near the corneal margin and beneath the conjunctiva. These cases came under my observation when only a very small tumour was visible, which I supposed, in both instances, to be the remains of the displaced crystalline. Although the patients suffered extreme pain for some time after the accident took place, they eventually recovered a very useful degree of vision, notwithstanding the omission, on the part of their surgeon to remove the lens by a division of the conjunctiva. Sometimes the lens will not only pass through the sclerotica, but through the conjunctiva also, by the laceration of both membranes at the same time, and yet the patient's vision will be moderately good when assisted by the ordinary cataract glasses: but this, of course, is neither a common accident, nor the customary termination of it when it does take place.

To conclude my remarks on this interesting case:—whenever a convex tumour of considerable size and covered by the unbroken conjunctiva, forms near the corneo-sclerotic junction soon after an injury to the eye-ball, it is almost sure to consist of either effused serum or blood, or to be the displaced lens. The means of determining to which of these causes the enlargement is owing are, for the most part, abundant and manifest, and if the swelling be ascertained to arise from the presence of the lens, the rule for the guidance of our practice is absolute; the displaced crystalline must be at once removed by a division of the conjunctiva."

E. Employment of various Remedies for the Relief of Amaurosis.

a. Veratrine and Aconitine Ointment. Mr. Middlemore has tried these vaunted remedies in eight cases. His mode of using the ointment* has been to rub, daily, a quantity, the size of a small nut, above the eye-brow, by means of a bit of sponge, attached to a convenient handle, until the skin begins to smart and feel very hot.

In only *one case* was the slightest benefit obtained. It was that of a soldier suffering from dimness of vision, which, however, was not so great as to prevent him from walking with tolerable ease about the streets of the town, and managing the slae of vegetables at home. The pupil of his eye was rather large and sluggish, and there was just that sort of muddy (occasionally approaching to resplendent when viewed in a particular light) green appearance within the eye, which is noticed where chronic inflammation of the sceptra of the hyaloid membrane has induced a slightly turbid condition of the vitreous fluid. The pupil (and this is a very common effect of these applications) became smaller and more active, and he thinks his sight considerably improved. After discontinuing the remedy, his sight was very little better than it was before he used it.

In some cases of neuralgia of the eye-ball, Mr. M. has prescribed these ointments of unequivocal advantage.

b. Application of the Nitrate of Silver to the Margin of the Cornea. The use of a finely pointed stick of caustic to the margin of the cornea has been much recommended, and, some years ago, was tried by Mr. Middlemore, without advantage. His mode of applying the caustic is this:—

“Having a portion of nitrate of silver worked to a delicate point, I touch the cornea near its junction with the sclerotica so slightly as merely to produce a small eschar, on the detachment of which a minute, superficial, and perfectly healthy ulcer remains, which very readily heals and becomes imperceptible, and this I do at about four points, which are comprised within the half of the cornea.”

“In one or two instances in which I have employed the nitrate of silver, a troublesome form of ophthalmia has occurred afterwards, but, inasmuch as most of the cases in which the nitrate of silver are admissible and advisable, are those in which there is an anæmic and atonic condition of the ocular tunics, and of the vascular system of the eye generally, this occurrence is very rare, and has always been, under my own observation quite unmanageable.”

Lately, he has had a case in which the plan has apparently been useful, and, as M. Listranc says that he has found it very much so, it is not altogether undeserving of attention.

Case. W. E., æt. 12, had suffered from an attack of fever two years previously, since which he has been blind.

The following is the state of the eyes. Pupil large, clear, and immoveable there is no inflammation present, and his eyes are not painful. With the right eye he can just discern the degrees of light, with the other he has not the slightest perception of light. To this eye (the left) the nitrate of silver was applied four times at suitable intervals, when the vision of the eye (formerly entirely dark) was sufficiently restored to enable him to distinguish colours and to make out large and conspicuous, objects. The pupil is smaller than it was, and the iris is more active. The use of the remedy and the improvement of vision are now progressing, though slowly.

* It is prepared by mixing four grains of aconitine or veratrine with half an ounce of lard.

c. Use of Strychnine. "I must not omit to mention that in two instances of amaurosis occurring in my private practice, I have, after the failure of other methods, placed a blister in front of the ear, and applied to the raw surface left after its removal a small quantity of strychnia, and that its use has been followed by the most satisfactory results; satisfactory, indeed, when it is considered that this method of management was tried after all the measures previously employed had failed to relieve."

GENEVA HOSPITAL.

REPORT OF THE CASES OF THE IN-PATIENTS TREATED IN THE MEDICAL WARDS.
By H. C. LOMBARD, M.D. Physician to the Civil and Military Hospital at Geneva.*

Dr. Lombard is well known in this country, as well as in Geneva. The Report from his pen contained in the last volume of the Provincial Transactions is very circumstantially, as well as ably drawn up. We regret that our narrowed limits prevent our doing more than present the brief summary facts with which it terminates, a summary, however, which, though brief, enables us to understand at a glance the principal features of the Report itself.

"If we now," says Dr. Lombard, "collate the different facts contained in this paper, and endeavour to ascertain the frequency or the rarity of the diseases we have been considering, with reference to the climate of Geneva, and to the influence of the different seasons, we may trace the following summary of the influence of the seasons on the development of certain diseases.

1st. Winter (December, January, and February).—During this quarter, which may be considered the coldest in the year, the number of patients admitted into the hospital is in general pretty considerable, without, however, being the fullest season of the year. The prevailing maladies during these three months are pneumonia, catarrhal fevers, acute muscular rheumatism, and apoplexy. The diseases which are met with more rarely in winter than at any other period of the year, are bilious and intermittent fevers and acute articular rheumatism; but we must remember that, in the last of these complaints, the differences in each season are not in general very remarkable.

2nd. Spring (March, April, May).—This period of the year is composed of two rainy months, and of one month (March) in which the temperature is sometimes high and sometimes cold, so that altogether the season may be considered as damp and variable. The number of entries in this season is not so considerable as in the other quarters, for it is only the acute and chronic pulmonary catarrhs which contain their maximum of frequency during the spring, whilst apoplexy, erysipelas, typhoid fevers, and acute articular rheumatism, are more unusual during the spring than at any other period of the year.

3rd. Summer (June, July, and August).—The three hottest months in the year are those which furnish the greatest number of patients by which I do not mean that the number of patients assembled at the same time in the hospital is the most considerable at this period of the year, because in the hot season diseases are usually shorter and more acute, and convalescence less tedious; so that during the summer we have often, had fewer patients at a time than during the winter, though the number of entries has been more considerable in the former than in the latter season.

The prevailing complaints in summer are, erysipelas, acute articular rheumatism, sciatica, and bilious, typhoid, and intermittent fevers. Those most rarely

* Provincial Transactions, Vol. VI. Part II.

met with in summer are, acute muscular rheumatism and chronic pulmonary catarrh.

4th, *Autumn (September, October, November).*—A gradual decrease of temperature, fogs, and rainy weather, characterise this period of the year. The season, which to judge of it from our own sensations, and from the generally received opinion, would appear very unhealthy, is on the contrary the time of year in which we meet with the smallest number of patients, and the lowest mortality.

One disorder only, acute articular rheumatism, appears to have a certain degree of frequency in autumn, though its maximum does not belong to that season alone, since the same amount of frequency is observed in summer. The diseases which are met with more rarely in autumn than at any other period of the year, are acute pulmonary catarrh, pneumonia, sciatica, and catarrhal fevers."

PHILADELPHIA HOSPITAL.

CLINICAL REPORT OF THE SURGICAL DEPARTMENT, FOR THE MONTHS OF MAY, JUNE, AND JULY, 1837. By W. E. HORNER, M.D. Surgeon to the Hospital.*

From the Report before us, we extract a few of the main particulars.

A. *Treatment of Fistula Ani by the Seton.* "The common mode of treating this disease now is by a division of the sphincter ani. My own impressions are in favour of the seton, and the cases treated were in that way. The time was too short to exhibit results; but from preceding experience, and especially when the constitution is impaired, it appears to me to be the best of the several modes."

It will take, we think, not a little persuasion, to induce surgeons to abandon their present operation and employ the seton.

B. *Treatment of Leucorrhœa, by Stuffing the Vagina with Lint.* "The results of a treatment of three cases of women of the town, whose leucorrhœa it is extremely difficult to distinguish from blennorrhagia and the reverse, excited strong hopes that this obstinate affection is susceptible of an improved mode of cure, the first idea of which originated, I believe, in the French capital; to wit: that of cleaning out the vagina well every day with some abluent, and then packing it full and systematically with lint, by the aid of a speculum; the first step of the dressing being to keep off the lips of the womb from the vagina, by filling up the connecting depression."

The detergent used in one of the cases was the liquor sub-acet. plump., and the vagina was afterwards plugged with cotton. An ulcer existed at the beginning on a lip of the womb. This patient, from being stationary previously, improved rapidly under the treatment.

A second patient was cured very rapidly and perfectly, by the daily plugging of cotton, and cleansing with soap and water. The treatment lasted about two weeks, at the end of which time she was seized with symptoms of inflammation of the womb, which also got well. Whether the latter disease was a consequence of the treatment, or merely a concomitant of the other, cannot be determined until more cases managed in this way are brought before the profession.

A third case was cured in eighteen days, and without accident, by daily plugging with cotton and washing the vagina clean.

* The American Journal of the Medical Sciences. November, 1837.
No 74.

c. Treatment of Acute Gonorrhœa by Cubebs. In this affection the symptoms being so distinct as to leave no doubt of their nature: the piper cubeba exhibited the most marked and incontestable influence. In nine cases seven were cured on an average treatment of ten or twelve days; an eighth was relieved, but not cured; and in the ninth the remedial value was unsettled, perhaps nugatory. The plan of treatment was to resort to blood-letting, when there was plethora, and the pulse full; to open the bowels freely with a saline cathartic, to keep the patient on a vegetable diet; and then to administer a drachm morning, noon, and night of the powdered cubebs, directing during the continuance of this course, to use as little water or diluent drinks as possible.

The latter recommendation certainly runs counter to the ordinary method. And yet it is by no means opposed to common sense or to received principles. One of two things is desirable—either for the patient to make very little water—or to make a good deal of a very dilute description. Which of the two is best it is not easy on theoretical grounds to determine. By the one the parts are kept quiet, but the urine, when it does pass, is very acrid—by the latter, the parts are not kept so quiet, but the urine is less stimulating. For ourselves, we confess that we have so constantly given diluents that we cannot speak practically on the subject. But of one thing we are sure, that Dr. Horner's recommendation of cubebs is overdone.

d. Proposal for a New Treatment of Vesico-Vaginal Fistula. Dr. Horner proposes to bring the *womb* so far down in the vagina that its anterior face may be so fixed as to supply the loss of the *inferior fundus* of the bladder and its *neck*. This idea was carried into execution in the following case.

Case. Catherine Hurley, æt. 30, suffered in parturition, a slough of the greater part of the vesico-vaginal partition. Dr. Horner adopted the following process.

A silver instrument of four inches in length, resembling a female catheter, but having a broad circular shoulder in the middle, was provided for the bladder. Another instrument, founded upon the idea of the *ephelcometre* of Mr. Guillon, and resembling in its construction an umbrella-frame deprived of all its arms but two, and they cut off beyond the second joint, was provided for the uterus. It was made to expand like an umbrella and to close in the same way: and when expanded, it assumed at its upper part a triangular form, of the shape and dimensions of the cavity of the womb, but when closed, it was a cylinder of three lines in diameter. This instrument, when closed, could be readily introduced into the womb, and afterwards expanded there, which expansion gave a complete command of the position of the womb, for by the handle of the instrument the womb could be drawn down at pleasure or shoved back, or, in fact, directed in any way.

The first instrument being introduced through the urethra into the bladder, after the second was expanded in the womb, the bladder was shoved back by the shoulder of the catheter, and the womb brought down by the *ephelcometre*. The handle of the latter was carried through a hole in the shoulder of the catheter, and fixed in its proper position, so as to be stationary. The relative position of the womb and bladder was now such that the womb plugged up the opening in the fundus of the bladder, and it only required the surfaces in contact to form adhesions for a cure to be the result. To facilitate those adhesions, the edges of the fistula were touched with lunar caustic.

Catherine Hurley wore this apparatus for two days without much inconvenience; there were, however, some mechanical defects in the construction of the catheter, which made it more painful than it need be, and Dr. H. took it out to amend it. But she became unmanageable and finally declined the treatment.

We have great doubts both of the efficacy and safety of this plan.

WESTERN LYING-IN HOSPITAL AND DISPENSARY, ARRAN QUAY, DUBLIN.

SECOND MEDICAL REPORT. By FLEETWOOD CHURCHILL, M.D. &c. &c.*

This Report, like Dr. Churchill's preceding one, is characterized by great clearness, precision and ability. We shall select a few particulars for notice.

The Report embraces the period comprised between the 1st of November 1836, and the 31st of December 1837.

During that time, 391 females derived assistance from the hospital; of these, 128 were intern; and 263 extern patients.

From this number we must deduct twenty-one cases of abortion, and one case of uterine hydatids, which will leave 369 cases of labour.

The number of children born amounted to 376, of whom 206 were males, and 170 females; twenty-eight of them (seventeen males, and eleven females) were still-born, or died an hour or two after birth.

Of these 5 were premature—2 were breech presentations—2 were footling ditto—2 were funis ditto—1 was a footling case, with prolapsed funis—1 was covered with syphilitic eruption—1 was a crochet case.

In 299 cases, the duration of labour was accurately noted, In 65 cases it was under 6 hours—in 93, under 12 hours—105 under 24—18 under 36—7 under 48—5 under 60—5 under 96—1 under 120.

In almost every tedious case, no application was made for medical assistance till the patient, or her friends, were alarmed by the delay.

In 358 cases, the presentation was as follows:—In 331, it was natural—in 4 the hand descended with the head—in 9 the breech presented—in 10 the feet, in three of which the funis prolapsed—in 2 the funis presented—in 2 the arm.

There were seven cases of twins; their sexes were:—

In 1st case.....	2 males.	0 females.
2nd	2 ..	0 ..
3rd	1 ..	1 ..
4th	2 ..	0 ..
5th	1 ..	1 ..
6th (premature) 0 ..	2 ..	2 ..
7th	2 ..	0 ..

Total, 10 Total 4

Of these, one male and two females (premature) were still-born, or died immediately after birth.

As to the presentations; in four cases both the children presented naturally, and one child was still-born. In the fifth case, one child presented the breech, and the other the arm. In a sixth case, one child presented the breech, and the other the head: in each of these cases both children lived. In a seventh case, the presentation of one child was natural, and the head of the other descended along with its head: both children were lost.

No cases of puerperal fever occurred during the year either among the in, or the out-patients.

Of the 391 females attended in the hospital or at their own homes, three only died (or one in 130), and two, at least, of these, owed their deaths to circumstances which could never have occurred had they been delivered in the hospital. The third sunk from the shock of a tedious labour upon a constitution enfeebled by severe pulmonary disease.

* Dub. Journ. May, 1838.

Tedious Labour. "In the Report of the Hospital for 1835-6, I took occasion to allude to the question of how far the length of the first stage of labour may influence the duration of the second stage, and the consequences to the mother and child. Taking the rupture of the membranes as the limit of the first stage, (which is generally, though not always, the case,) and referring to the tabular views I gave of the intervals from the commencement of labour to the rupture of the membranes, and from the rupture of the membranes to the birth of the child; I drew the following conclusions:

1st. That the length of the period after the evacuation of the liquor amnii, bore no proportion to the time which elapsed previously. 2nd. That the constitutional effects of labour are not to be estimated by the length of the first stage, &c."

Dr. Churchill subjoins four tables—the first comprising nine cases of labour of thirty-six hours duration—the second, four cases of forty-eight hours duration—the third, six cases of sixty hours duration—the fourth, three cases of ninety hours duration. He adds:—

"This table appears quite conclusive as to my first proposition; for out of twenty-one cases of labour, varying in duration from thirty-six to ninety-six hours, in only four, did the second stage amount to more than four hours, while in eleven it was concluded in one hour. Neither did the duration of the second stage increase in proportion to the prolongation of the whole labour, for of the three cases of ninety-six hours each, in only one, did the second stage exceed three hours.

These cases also afford at least negative evidence in support of the *second* proposition, for although in all but one, it was the prolongation of the first stage which caused the delay, and although in some this first stage was both excessively long and badly managed, (from being intrusted to ignorant females,) yet in no instance did the constitutional symptoms which characterize powerless labour arise; and this I fully believe, because it was during the first, and not the second stage, that the delay took place."

"So far as the series of facts I have just presented extend, they are in direct opposition to the recorded opinions of Professor Hamilton; for a prolonged first stage neither rendered 'the powers of the uterus inadequate to expel the infant with safety to its life, or to the future well-being of the patient;' 'nor disposed the uterus to contract irregularly, so as to occasion retention of the placenta;' 'nor too feebly to prevent fatal hemorrhage;' 'nor lastly, did it give rise to febrile or inflammatory affections of a most dangerous nature.'

For 1st, all the children were expelled alive and continued to live, except two, one of which was premature (six months), and the other presented with the funis, and whose deaths were consequently not attributable to the protraction of labour. 2ndly, neither flooding, retention of placenta, fever, nor inflammation, happened in any case; on the contrary, every one of the cases recovered as well as after an ordinary labour of twelve hours' duration."

As for poor Professor Hamilton he must now be accustomed to seeing facts versus his dogmatic assertions. But he has run a-muck at every body so often, that he is looked on by all as an *Accoucheur-Quixote*.

NEWRY DISPENSARY AND FEVER HOSPITAL.

REPORT FOR THE YEAR, 1837. By J. MORRISON, M.D. PHYSICIAN TO THE HOSPITAL.

We are very glad to perceive the disposition so general on the part of the medical officers of our Irish charitable institutions, to publish efficient Reports. There is no lack of energy and talent in the Green Isle. We regret that our

crippled space this quarter, compels us to limit our notices of these Reports. We can only select an insulated fact or two, from Dr. Morrison's.

1. *Treatment of Influenza*.—It was generally found that, with the exception of aperients and diaphoretics, the usual antiphlogistic measures, even at the commencement of the disease, could not for any length of time be safely employed, their effects being soon recognizable as very different from those which accrue from their administration in pure inflammatory affections of the respiratory organs.

"After the first two or three days of the incursion, there was seldom any risk in using tonics and stimulants; and this treatment I found to be by far the most successful. Under the tonics, I would comprise nutritive broths, wine, and, in some cases, the preparations of iron, of bark, &c. And under stimulants, the decoction of *Polygala seneka*, in conjunction with carbonate of ammonia, and camphorated tincture of opium, as well as blisters, mustard cataplasms, rubefacient liniments, &c."

In some cases, when great debility existed, with excessive secretion from the bronchi, acetate of lead seemed to form a highly valuable adjuvant to the list of internal remedies. Several persons labouring under "suffocated catarrh," certainly appeared to be rescued from the jaws of death by the administration of an emetic of mustard, and this followed up by a combination of acetate of lead and camphorated tincture of opium, together with external stimulation over the chest.

2. *Priapism in Typhus Fever*.—"I wish to advert to a symptom which was manifested in some five or six cases, and which I am not aware of as having been previously observed in this country—I mean priapism. My attention was directed to it, in the first two cases, by accident; but since these, I have inquired for it, and found it to exist, under certain circumstances, rather frequently. In two of the cases in which it existed, there was considerable heat at the lower and back part of the head. Leeching to the occiput, followed by cold lotions and blistering, together with calomel and emetic tartar, and morphine draughts at bed-time, in these removed the affection. In the three or four other cases, no unusual heat at the back of the head was felt; and in these, blistering succeeded by tincture of opium and emetic tartar, also completely removed the priapism, though one case terminated fatally; and unfortunately no examination would be permitted."

3. *Successful Amputation during Spreading Gangrene*.—"A young man received a gun-shot wound in the ham. On visiting him a few hours afterwards, I found the foot and leg cold, and without any appreciable pulsation; no hæmorrhage of consequence had taken place. Believing the popliteal artery to be wounded, and amputation of the limb necessary, I immediately sent for further advice. A medical friend soon arrived, but whose opinion of the case did not coincide with mine. He urged the propriety of attempting to save the limb. Mortification manifested itself on the foot in a few days, and very soon after became master of the leg. The patient's strength was now rapidly failing, his pulse 130, and like a thread, his countenance almost cadaverous, and the disease quickly extending upwards. As a *derneir* resort, amputation was now decided on at a numerous consultation. I accordingly removed the limb about six inches above the knee, though in the full expectation of finding the man dead the following morning. The next day, however, it was found he had passed a good night, felt and looked better, and from this date he gradually recovered."

On examining the limb, the popliteal artery was found completely lacerated, the soft parts below the knee were sphacelated, and those above it, almost as high as the place of incision, injected with a greenish serum.

We quite agree with Dr. Morrison that a stronger proof than this case could not possibly be given, of the occasional propriety of amputation in spreading gangrene.

4. *Cure of Wounded Brachial Artery by Pressure.*—A man received the stab of a sharp pointed instrument, which wounded the brachial artery, about a hand's breadth above the elbow-joint. The blood gushed out *per saltum*, and a large quantity was lost in a very short time. The wound being small, Dr. M. resolved to try pressure, having formerly treated a similar case with success. A graduated compress was accordingly applied over the wound, and the limb from this to the fingers pretty firmly enveloped by a bandage. A short distance above the wound, another compress was adjusted over the brachial artery, for the purpose of impeding the current, but was made to project considerably above the surface of the integuments, so as that the bandage which retained it would admit of a free collateral circulation. The man was kept in bed, lived on slops, and took digitalis for eight or ten days, when the wound was perfectly healed, and the artery apparently in its natural state.

MISCELLANIES.

ANIMAL MAGNETISM.

IF the following report prove to be correct (and it is said to be authentic) we must, however humiliating it may be to our pride, withdraw all opposition to Mesmerism, and acknowledge ourselves to have been unreasonably sceptical on the occasion.

A young and hysterical female had suffered much from most painful menstruation, for some years. It was proposed to try the new agent to lull the pain of back and hypogastric region, during the first day of the dysmennorrhœa. For this purpose magnetized water was injected into the vagina, and a piece of Nickel applied to the loins. The effect was almost magical. The whole of the uterine system fell into profound Mesmeric coma, which lasted twelve hours, after which menstruation went on calmly and free from pain. The same process was employed at the next catamenial period, and with equal success. The third period passed without pain—and without any menstruation at all.

This was considered to be accidental, and that, at the fourth epoch, all would come right. The fourth passed, how-

ever, in the same way as the third, and the consequence of this obstruction was, morning sickness, and some qualms and caprices as to certain articles of diet. Soon after this, the mammae enlarged a little, and the areola round the nipples became of a darker hue. Still later the young female became plumper about the abdomen than she used to be—and, finally, there was no doubt left as to the powers of the magnetized water. The MAGNATES MAGNETICI were now in rapture, and became satisfied that the advent of a young Mesmeric Shiloh was at hand, and that HE would exhibit the zoo-magnetic powers in their highest degree of perfection. They confidently predict that he will, not only have *clairvoyance* at his *finger's ends*, but that he will be able to magnetize and somnolize every living creature at the distance of the antipodes, if desirable. As our antipodes are in Australia, let the kangaroos look out sharp, or they will be "*caught napping*," and find their way into our zoo-logical gardens.

The heads of the MAGNATES are nearly turned by this event, as they prognosticate, and not without reason,

that a new race of mortals—perhaps immortals—is about to appear—something of the Minerva breed—struck out of BEING's brains—from brains struck out of BEINGS. And as successive revolutions of our earth prepared the way for successive races of animals, so the MAGNATES MAGNETICI are probably destined to introduce a new code of laws into the physical, or even moral world—the old laws of Nature and Nature's God beginning now to effete.*

But let the philosophers of the new light ponder a little on the results of their discoveries. When the modern Prometheus succeeded in infusing a spark of life into the man-monster at Geneva, he little thought that he was bringing into the world a demon over whom he would have no control; but who, on the contrary, would embitter the days of his creator, and destroy the lives of innocent victims! So the magnetizing Frankensteins may be unchaining a monster who may overwhelm the liberators in ruin or destruction.

Let us come a little closer to the question. Animal magnetism must either be true or false—a fact or a fiction. Suppose it be true:—and see the consequences. By a single wave of the hand, we deprive a female of all sense, and throw her into such a profound sleep that the teeth may be pulled out of her head without the slightest consciousness on her part. Should such a power on the one side, and such susceptibility on the other, he once established, no female in the realm, however high or low her station, would be one day safe from the machinations of the wicked and licentious! In short, the whole foundations of society would be broken up, and every fence of virtue and honour would be levelled in the dust!

Fortunately for society, animal magnetism is a fiction—a falsehood. But even in this point of view, is it harmless

because it is baseless? By no means. In the first place, it has, even already, affixed a stigma on the medical profession, whose members were considered to be too intelligent and too enlightened, to become the dupes of impostors, and to give credence to absurdities which would scarcely be listened to in the wilds of America or the interior of Australia. Medical men were generally supposed to know something of anatomy and physiology, and to be amongst the foremost to bear testimony to the infinite wisdom displayed in adapting every organ of the human body to its proper and peculiar function. But now the public is astonished to learn that some of the magnates of the profession have repudiated this divine adaptation, and proclaimed the astounding fact that the finger, or the epigastrium can perform the functions of the eye, thus proving that the Architect of man was a bungler and went to great and unnecessary trouble in constructing complicated apparatuses for specific functions, when any, even the most superficial part of the body could, by the mandate of man himself, perform these functions allotted by the Deity to their proper organs. But this is not all. The medical profession and the world at large saw clearly, and freely acknowledged that man had no *prescience*—knew nothing, in fact, but what he gathered from his physical senses—except where there was a special revelation from Heaven; yet now there are medical men who implicitly believe that a flatulent, hysterical, and impudent baggage can *prophecy*—can see events that are in the womb of fate—and predict the operation of medicines of which she is totally ignorant!! What must the world think of believers in such blasphemous mummeries? We pity and despise the poor Hindoo who worships his cow, and the Chinese who flogs his Josse-God, when he is not favoured with a fair wind in his junk; but these benighted people were born and brought up in the darkness of idolatry—an excuse which medical men cannot plead.

We shall allude to only one more consequence of animal magnetism, contemplated as a declension. It ena-

* It is expected that a celebrated anatomist will stand "foster-father on this occasion. and will baptize the magnetic infant in the Greek ritual, and under the name of ST. NICKEL-ASS.

bles every artful wench, under the manipulations of the magnates, or even of their brainless disciples, to set up as a prophetess, and, in her Mesmeric ravings, not only to see but *reveal* the transactions that are going on amongst her neighbours. Every person whose brains are not in a state of magnetic coma, must see, at a glance, what irreparable mischief of a PYTHIA of the modern Delphi may produce by giving her tongue liberty to wag, and her jealousies or hatreds ample scope to victimize at the expense of others. It is said of the original Pythia that, when Greece began to lose its independence, means were found to corrupt the Pythia—and Demosthenes complains that, in his time, “she spoke as Philip of Macedonia would have her.” The public will readily perceive the applicability of this passage to certain Macedonian monarchs who are working the tripod at present, with little credit to themselves and much scandal to the profession at large. Extremes approximate. Strange that philosophers so far elevated above the common credulity of the world, should yet be so credulous themselves, as to believe in the supernatural powers and prophetic visions of ignorant, vulgar, and mendacious impostors!!

These observations are not levelled at, nor intended for, any individual, but they are addressed to every one who sanctions by his presence, or supports by his pen, one of the most barefaced and outrageous impostures that was ever foisted on the public, or that disgraced the members of a liberal and enlightened faculty.

After the above observations had been penned, we met with the following most extraordinary passage in the Medical Gazette, by Mr. Mayo.

“Hitherto the tendency of physiological science has inclined towards materialism. Every new discovery regarding the nervous system up to the present time has tended only to shew more and more the dependence of the mind on the bodily organization, by parcelling out and assigning separate mental operations to separate parts of the brain or nerves. And, however, by

reasoning drawn from other sources, one has shaken off or struggled against the weight of the physiological argument, one has always felt its influence in straitening those chinks and openings, through which one has caught glimpses of *spiritual existence*, and its force in habituating us to attribute more and more influence and compulsion to matter.

But the phenomena which I now mention that I have witnessed, and which are already admitted as part of Nature by some of the first surgeons and physicians of France and Germany, seem directly to lead to other conclusions, and to support those convictions which we derive from a higher philosophy.

I think that the phenomena of *pre-vision and transposition of sensation* (and those of clairvoyance likewise, if the latter are true, and there is anything in them beyond the workings of an over-active imagination) naturally lead to the supposition, that they result from the workings of a *spiritual nature, in a certain independence of those bodily organs to which it is normally closely tied and bound*. It is conceivable, that in such cases as I have described, when all the common avenues of sensation are concluded—when eye-sight, taste, touch, hearing, are suspended—and *when a sort of vision is sensibly exercised by some part of the common surface of the body*—that these phenomena arise from the mind being in part dislocated and displaced from her corporeal tenement, holding on with misplaced attributes to unaccustomed points and corners of the frame. It is conceivable, again, that in that wrapt and mysterious state, in which the individual is giving utterance to remote anticipations that are *strangely verified, the mind is acting independently of its usual organs, and, with the character of spirituality, is freed from the restraints of time, as in clairvoyance (if that ever exist), it would appear to be partially free from the restraints of space*.* Man, we are told, was made in the image of God: these may be partial revealings of the parity of the

* Med. Gazette, Aug. 11, 1838.

spiritual nature of the created being to that of his Creator. *There are many things in tradition and popular belief, which would lead one towards such a hypothesis, as that which I have advanced as they might equally find their solution and explanation in it.*

From Homer to Shakspeare and Scott, the great observers of mankind and knowers of human nature, have represented the prophetic spirit as occasionally manifesting itself immediately before the approach of death, when it may be supposed that the soul is loosening herself from her corporeal residence. And who is there, who has not himself met with perfectly authenticated instances of communication strangely felt, rather than made, of the time of the dissolution of an absent friend? Perhaps in the origin of such superstitions (for superstitions we habitually consider them, although from their universality they seem to deserve the consideration even of philosophers) there may be something in common with the source of the wonders of Mesmerism.

HERBERT MAYO.

August 8, 1838."

Upon such an explanation or *apology* for clair-voyance and transposition of the senses, we dare not trust ourselves with any remarks. We defy Germany itself to produce such a specimen of transcendental psycho-physiology as the above. This is psychology coming to the rescue of animal-magnetism with a vengeance! What does Dr. Elliotson say to this doctrine about the "*soul*?"

P.S.—A grand explosion of animal magnetism has taken place, and, on the 9th of August, Mr. Wakely has blown the *disjecta membra* of Mesmerism into the air, leaving scarcely a wreck behind. Mr. Wakely owed this to the profession; for the publication of the reports in the *Lancet* tended very much to keep up the delusion—especially as the magnates evidently calculated on the support of that periodical, seeing that there was somewhat of a leaning towards Mesmerism in the reporter, if not in the editor. But the magnates reckoned

without their host, and in changing King Log, the reporter in the North London Hospital, for King-Stork, the consumer, in Bedford Square, they made a woeful mistake! It was not likely, indeed, that he who made Mons. Chabert eat up his own words—a much more ungrateful task than eating his own fire—should allow another Monsieur to play his antics long in Wigmore-street. As the detection of the impostures is now before the public in the *Lancet*, we need only quote Mr. Wakely's final conclusion. "After the girls had departed, Mr. Wakely made a few remarks on what had been witnessed, and declared that, in his opinion, the effects which were said to arise from what had been denominated 'animal magnetism,' constituted one of the completest delusions that the human mind ever entertained." Every person present, except the Baron du Potet, and Dr. Elliotson, concurred in this sentiment.

We may now consider that a fatal and final blow has been given to "animal magnetism," and we envy not the feelings of those who were credulous enough to lend an ear to such jongleries. What new Greek name will Mr. Mayo now search out for the mummery of Mesmerism? We can tell him that he need not take the trouble of hunting through his Lexicon. He need not even consult "Johnson." The Slang Dictionary, under the head of "HUMBUG" will supply him with a very proper, though not very erudite term, for the new quackery; or, if he prefers a more classical appellation, let him christen the new science by the title of NICKEL-ASSERY. Mr. M. thinks he has left "EXONEURISM" in a better condition than that in which he found it. We are of a very different opinion, and suspect that his extravaganzas have contributed not a little to hasten its downfall. We shrewdly suspect, too, that Dupotet and Elliotson entertain a similar conviction, and that these gentlemen secretly curse the hour when Mr. Mayo "lent his fostering offices towards Mesmerism." Many a time will they groan in spirit—

"Non tali auxilio, nec defensoribus istis
Mesmer eget.*"—

It is worthy of notice, that not one of the seven medical journals published in Great Britain has supported "animal magnetism." Four of them have now repudiated it, and three have preserved silence. It needs not a prophet to foresee that if the three journals in question speak out, it will be on the wrong side for Mesmerism.

It will hardly be believed, but we have authentic proofs of the fact, that even after this exposure in Bedford Square, a private somnambulatory is still kept established in the West End, under the highest patronage and superintendence where *gulls* from the country are *clawed* four times a week for a sovereign, viz. five shillings per *Seance*!!

RELATIONSHIP BETWEEN EPILEPSY AND APOPLEXY.

A gentleman in the legal profession, aged 58, who held an official situation where great mental labour was required became affected with epileptic, or epileptiform fits, which usually came on early in the morning, before leaving bed, and exhibited convulsive struggles generally with loss of consciousness for a short time, followed by sleep and lassitude. The next day he was usually fit for his mental labours, and experienced no deterioration of his intellectual powers. The attacks became gradually more frequent, and for some time, returned pretty nearly at intervals of a fortnight, four o'clock in the morn-

ing being the hour of invasion. No medical man witnessed the attack, in consequence of the period of its occurrence. But the wife of the patient described these attacks accurately, and no other inference could be drawn but that they were epileptic. They had continued more than a year when the reporter saw him. There was no evidences of any cerebral lesion besides the fits above mentioned. He complained a little of his memory; but at 58 years of age, the memory begins to fail in most people. The digestive organs were attended to, counter-irritation to the nape of the neck, and small doses of the nitrate of silver were given for a few weeks; but attacks were increased in frequency, rather than diminished, the nitrate was discontinued, and only ordinary aperients employed, with light diet, and temperance in drink. On Monday morning, the 21st May, at the usual hour—4 o'clock—he felt his usual attack coming on; but, alas! it was his last one. Instead of epilepsy, it proved to be decided apoplexy, which terminated life in about 36 hours, despite of active treatment.

On dissection, the ventricles were found distended by a considerable quantity of clear water, evidently of long standing. The vascular system of the brain, but especially the venous, was remarkably congested throughout, but there was no rupture of vessels or effusion of blood. The brain itself, however, particularly about the *cura cerebri* was in a state of ramollissement, so as to be incapable of dissection. This was still more especially the case in regard to the cerebellum, which was almost in a state of liquefaction and would not bear handling.

Now it is not a little extraordinary that, with such a state of brain, this individual was able to use his intellectual powers, with scarcely any diminution, two or three days before his death! This puzzles our physiology and pathology. The case is also interesting, as shewing how easily epilepsy may merge into apoplexy, and prove fatal.

* The admirable tact with which Mr. Wakely contrived to "puzzle the conjurers," (including those notable performers, the Okey's), by substituting lead for nickel, and nickel for lead, has drawn forth the following *jeu d'esprit*:—"Why did Wakley change O'Key's name from the feminine to the masculine gender, when he cheated her out of the miraculous metal? Because he then made her *Nickel-O-Minus*."

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
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EXTRA-LIMITES.

I.

ON SIMPLE ULCERATION OF THE STOMACH; WITH OBSERVATIONS ON THOSE FORMS OF GASTRIC IRRITATION WHICH MORE COMMONLY PRECEDE AND ACCOMPANY IT. By *Langston Parker, M.R.C.S.*

THE general pathological character of the disease I am about to describe is that of a simple round, or oval ulcer, with edges generally thickened and elevated, in which the mucous and muscular coats of the stomach are more or less completely destroyed, and the bottom of the ulcer is formed by the peritoneal coat of the stomach; or, where the ulcers have healed by a membrane, the result of the process of cicatrization.

The anatomical characters of the disease consist in a round, oval, or irregular shaped ulcer, more or less deep, occupying various positions upon the internal surface of the stomach, more frequently however situated in the cardiac portion, the greater curvature, or, in the vicinity of the pylorus. The edges of these ulcerations invariably present considerable thickening, so that in many instances, they appear, as it were, dug out into the substance of the thickened adjacent coats.

In ulcers of moderate size, the mucous and muscular coats of the stomach are commonly destroyed, and the bottom of the ulcer is formed by the peritoneal coat, sometimes very much thickened, a membranous cicatrix, or the base is rough, uneven, and fungous, and shows that the process of ulceration is still going on. M. Cruveilhier has, I think, committed an error, in stating that these simple ulcers of the stomach are generally single. In a great number of instances they are not only double, but even multiple, and the use of a moderate glass, or even the naked eye, will shew in many instances where a large ulcer seemingly exists alone, that the mucous membrane is covered with many small spots of ulceration which a superficial examination might pass over;—the preparation, or figure No. 1, is a remarkable example of this fact.

One great peculiarity of this species of ulcer is its tendency to cicatrize under proper medical treatment. In some instances the cicatrices of these ulcers precisely resemble those of a badly healed burn, and they have likewise the same tendency, if the ulcer be large and deep, and its edges very much elevated, to pucker up, and draw together the surrounding parts, so that the stomach is contracted and deformed, its peristaltic motion impeded or destroyed, and the process of digestion in this manner rendered laborious and painful.

The healing of the large deep ulceration represented in Fig. 1. had so contracted the stomach, that its cavity was diminished nearly one-third.

All the cases of simple ulcer I have had an opportunity of examining after death have presented concomitant marks of inflammation in other parts of the stomach; these have consisted in general increased vascularity of its mucous membrane—a punctiform or arborescent redness, general or partial—a congested and distended state of the veins of the submucous cellular coat, with general or partial thickening of the other tissues.

The terminations of ulceration of the stomach are four;—in three modes fatally, in one favourably. It may terminate in erosion and perforation of the stomach;—in one way by the continuance of the ulcerative process, and in another by the weight of the food pressing continually upon a thin cicatrix, or the centre of an ulcer occupying the greater curvature or cardiac portion of the stomach. Simple ulceration of the stomach may terminate secondly in a fatal hæmatemesis, the process of ulceration, by its continuance, opening a large

venous or arterial trunk. It may in a third way become fatal, and wear out the patient by the constant and violent pain it occasions, destroying his digestive powers, impeding nutrition, and producing gradual emaciation, and death. Fourthly, the ulcer may cicatrize, and the patient become perfectly well, though even in this mode of termination there are two evils to dread—the recurrence of the disease from slight exciting causes, and the rupture of the cicatrix from the pressure of food, or from violent exertion.

CASE, illustrating the History, Symptoms, Pathology, and mode of Treatment of simple Ulceration of the Stomach.

A remarkably stout man, a free liver, in the middle walks of life, began to suffer from uneasiness after taking his food at the age of eight and twenty years. He then suffered from weight, distention, and flatulence, with nausea after eating; he had also occasional vomiting. These attacks were relieved by medicines prescribed by him by the physician, under whose care he was at that time placed, but were prone to recur when the patient returned to his customary habits of living. When I first became acquainted with him, eight or ten years ago, he complained of fixed pain in the epigastric region, which was much increased by pressure and taking food; the pain was not at that time constant, it was most distressing after eating, and accompanied by much flatulence and distention. By restricting the patient to a milk and farinaceous diet, sponging the epigastric region frequently during the day with hot water, and exhibiting some mild carminative aperients daily for a short time, the symptoms subsided, and he again returned to his occupation in apparently good health.

After a time the pain again returned in a more violent and obstinate manner than before. It assumed the same character, was worse after eating, and accompanied by some tenderness and heat in the epigastrium. It did not now yield to the remedies which had before relieved him, but was much mitigated, and for some time entirely disappeared after the application of small relays of leeches, and continued counter-irritation over the epigastric and left hypochondriac regions.

My patient again returned to his accustomed occupations and mode of living, and after a lapse of eighteen months returned again with his pain as bad, if not worse than before. He was again relieved, I may say cured of his distressing uneasiness, by the administration of small doses of the muriate of morphia, and a repetition and continuance of counter-irritation; observing, at the same time, a strict dietetic regimen.

In this manner, during the last ten years of his life, was this patient relieved or cured six or seven times of the painful affection of his stomach, which as constantly returned, when he resumed his customary habits of living upon mixed and stimulating food and drink.*

After having lost sight of him for some time, during which period his ailments were so slight as not to lead him to seek medical assistance, I was suddenly called to him during a violent attack of hæmatemesis, in which he vomited from two to three pounds of blood. I may here observe that, during the previous progress of disease, my patient had never vomited blood, or those black discharges which are peculiar to ulceration of the stomach. He had rarely nausea,

* This part of the history of the case confirms a remark which I have made in another part of this paper, and which I find confirmed by the experience of M. Cruveilhier, viz. that ulceration of the stomach, after having, by care and judicious treatment, been brought to a state of cicatrization, is exceedingly prone to recur from slight dietetic errors, or even from strong mental impressions. The physician has seen a case similar to the one I have recorded, in which the disease returned three times, at intervals of from two to four years.

and if he had an attack of vomiting, which did not take place more than two or three times during the whole progress of his disease, he vomited his food only. He was, however occasionally subject to discharges of blood by stool, and at other times when this was not the case, his stools were black as pitch; these black discharges we shall afterwards speak of, but when they occur with such gastric symptoms as the present, and independent of any hæmorrhoidal or other disease of the rectum or anus, they are symptoms indicating very strongly the existence of ulceration of the stomach.

To the vomiting of blood succeeded great languor and depression, palpitations, hurried breathing, with attacks of severe pain in the stomach and bowels, which came on daily, sometimes twice or thrice in the twenty four hours. The pain seized him suddenly, and left him with a discharge of wind. He had great tenderness and pain in the epigastrium and right hypochondrium; the skin had a pale, sallow, blanched appearance, whilst the tongue did not deviate in any appreciable manner from a perfectly natural condition; it had the same pale appearance as the skin; no coating, no redness, no development of the papillæ.

From this time to the period of his death varied plans of treatment were adopted, with a view of relieving the epigastric pain. The trisnitrate of bismuth with the ponderous carbonate of magnesia and the muriate of morphia certainly afforded very marked relief; amongst many remedies that were employed this was the most efficacious. Benefit was likewise derived from the carbonate of iron with rhubarb, and a sedative. Small blisters were also used, with a strong solution of the extract of belladonna applied warm on a piece of flannel and laid over the epigastrium. Suddenly and without any appreciable cause his breathing became embarrassed, cough came on, and terminated in the expectoration of muco-purulent matter to the extent of three half-pints daily.

Under the continued irritation of pain; and bronchial disease, my patient sank, three weeks after the attack of hæmatemesis, at the age of 52. I believe the immediate cause of his death to have been bronchitis. I am firmly convinced that from his stomach disease he would have recovered.

Inspection of the Body, 28 hours after Death.—The coats of the stomach were generally thickened, more particularly the peritoneal, and this more marked in the pyloric half of the viscus. Great vascularity, and thickening of the mucous coat generally; the veins of the submucous cellular tissue gorged with black blood. The greater curvature contained a large, deep ulcer, perfectly healed, with thickened and elevated edges; the process of cicatrization had puckered up, and contracted this portion of the stomach to some extent, just as the skin is occasionally contracted by the healing of a burn. The cicatrix of another large ulcer existed in the immediate vicinity of this; here the healing process had been completed without puckering or contraction of the surrounding mucous membrane. Several smaller ulcers were formed in different parts of the stomach, the one immediately below and between the two large ulcers was rapidly healing; in the two lower ones, which I imagine gave rise to the gastric symptoms during the latter weeks of disease, the process of ulceration is still going on. The lowest, I have no doubt, gave issue to the blood vomited three months before death.

The spleen was hypertrophied to some extent. The liver in the same state. The pancreas much enlarged. The pericardium intimately adherent to the heart; the muscular structure of the heart very pale and soft.*

* These two pathological phenomena, viz. adhesions of the pericardium, and pallor with softness of the muscular substance of the heart, are commonly observed, after death, from prolonged gastric, or gastro-hepatic diseases. See the cases, &c., detailed in my work: "The Stomach in its Morbid States."

Several adhesions of the pleuræ on both sides; the bronchial mucous membrane vividly injected; general congestion of the substance of the lungs.

Remarks.—This case is worthy of notice, in many points of view, and exhibits in its history and morbid appearances most of the peculiarities of that disease which has been termed by Cruveilhier simple ulceration of the stomach; a disease which has never been fully described in this country, and but partially by the pathologists of France.

We will dwell for a moment on the history of this case. In the first place we observe the symptoms of indigestion, as they are commonly termed, to have commenced about the age of eight-and-twenty, and to have harassed the patient more or less during the whole of his subsequent life. It will be remarked that the attacks of stomach disease were at first relieved by medical treatment and strict attention to diet. As disease proceeded they became more difficult of cure, and what was at first a mere active hyperemia of the stomach, terminated in confirmed chronic gastritis, and subsequently in ulcerative inflammation of the mucous membrane. I conceive the facts of this case will admit of no other satisfactory explanation.

From examination of the accompanying preparation (Plate 1) it will appear, that the ulcers of the stomach had been formed at different periods, and certainly gave rise to those violent attacks of pain, which the patient from time to time experienced, at intervals, sometimes of two or three years. I believe the process of cicatrization was favoured by the local depletions, and counter-irritation to which my patient was subjected, when his pain became so violent, as to lead him to give up his occupation and seek for medical relief. Under a perseverance in a strict regimen, small local bleedings, counter-irritation, and minute doses of morphia, &c., he became perfectly well, and it was not till after a course of living upon a full and stimulating diet, that the attacks of inflammation and pain again came on.

On examining the morbid appearances in this specimen, we find that it exhibits almost all the varieties of which the simple ulcer is capable. In the first instance we notice the cicatrization of the large ulcer to be accompanied by that degree of contraction of the mucous membrane in its vicinity which is commonly observed in the skin after the healing of burns. The very healing of these ulcers may become a source of lasting inconvenience and danger, for if they be situated near the openings of the stomach, in the vicinity of the cardia or pylorus, the contraction of the cicatrix directly shrinks the orifice, and the passage of food to or from the stomach is rendered more or less difficult. The pathological anatomy of Mr. Cruveilhier contains the account of a patient in whom the cicatrization of simple ulcers had contracted the pyloric orifice of the stomach so much that it would barely admit a goose-quill. He had originally presented the symptoms of ulceration, which had been, by an appropriate treatment, cured, but returning to the pleasures of the table, and being a great eater, had suffered the most agonising pain after meals, till he, at length, sank from a succession of hæmorrhages, which M. Cruveilhier thinks arose from exhalation from the surface of the congested mucous membrane of the stomach, since no vessels of any magnitude could be detected from whence the blood could have issued.

It is thus that ulcers of the stomach, in their healing, sometimes lay the foundation of diseases as formidable as those which characterise their open condition.

The second ulcer has cicatrized without this contraction of mucous membrane, at least with a very trifling degree of it.

Perforation of the stomach has been prevented, in this instance, by the extreme thickness of the peritoneal coat of the stomach. This I imagine to have been the result of that inflammation which was going on in the coats of the stomach, previous to ulceration of the mucous membrane, and to which is owing that general thickening of the parietes of the viscus which is very remarkable.

The thickening of the peritoneal coat appears a provision of nature, for preventing that perforation of the stomach, and discharge of its contents, which must otherwise have taken place; and hence it is that perforation of the stomach, the consequence of ulceration, in males, is less frequent than in females; the ulceration, in the former, generally succeeding to a general chronic gastritis, accompanied by thickening; whilst, in the latter, the affection is due to a localized inflammatory action, occupying a very small portion of the mucous membrane, where the thickening is generally confined to the edges of the mucous membrane surrounding the ulcer.

GENERAL DESCRIPTION OF THE SYMPTOMS OF SIMPLE ULCERATION OF THE STOMACH.

The first of these is a fixed, acute pain, occupying the epigastric, or left hypochondriac regions, the centre of the sternum, or some point on the dorsal portion of the spine, between the scapulæ. This pain is the symptom "par excellence," it is that, and generally that only which attracts the patient's attention; from it he may be for some hours occasionally free; but never is so entirely during the day. For many hours out of the twenty-four this corroding uneasiness harasses the sufferer, sometimes in the morning, at others in the evening, sometimes in the intervals of meals, but generally it succeeds to them, and commences with more violence after the dinner meal, continuing without abatement till late in the evening, when it commonly subsides, and leaves the patient comparatively easy for the night, till breakfast brings back a return of his sufferings. The seat of this pain is, as I have just stated variable. I attended a gentleman for some years with simple ulceration of the stomach, who always suffered most severely in the centre of the dorsal portion of the spine, and along the course of the intercostal spaces; in this patient the epigastric pain was not absent, but in some measure masked by the greater suffering he experienced in the back and sides. These parts were very sensible to pressure, and he invariably experienced relief of the gastric uneasiness, from the application of small relays of leeches over the tender spot on the spine; this, during the latter months of disease was the only remedy that afforded any marked relief. This patient died ultimately from violent hæmatemesis.

In many other instances the pain is confined to the centre of the epigastrium, which is the chief, and indeed the only seat of suffering.

Although the act of taking food occasions the patient so much uneasiness, the appetite in many cases of ulceration of the stomach continues good, and in some instances is morbidly increased. The remark of patients labouring under this disease is commonly "I could eat any thing but dare not." In certain instances the appetite is defective. This I think arises most commonly from extensive concomitant inflammatory action, and where the ulceration is complicated with other lesions of the mucous membrane.

The tongue is in a great majority of instances clean; in some not the slightest deviation from the healthy condition can be detected; it is neither redder, nor less moist than usual, and even when ulceration of the stomach has been accompanied by profuse bloody vomiting, we observe the tongue to present that blanched condition which is common to other organs in this state, and not to offer that contrast to the external skin which is so remarkable in the advanced stages of pure chronic gastritis, where the vivid redness of the protruded tongue presents a striking contrast to the sallow, pallid countenance.

I have, in my work on the stomach, adduced a variety of facts, noticed by myself, and supported by the corroborative testimony of Louis, and Andral of the uncertainty of the state of the tongue as indicating any particular pathologic

condition of the stomach. The tongue certainly bears no direct relation to the kind, or degree of disease existing in the stomach. Dr. Stokes has remarked that too much attention is, and has been paid to it, with this view, by British practitioners; whilst Louis says "we should examine the tongue for itself merely, not to ascertain by it what is the matter with the stomach." I have rarely met with a case of simple ulceration of the stomach, where constipation of the bowels has not been a prominent and most distressing symptom; and one which is a source of great anxiety both to the patient and his attendants. The attacks of pain are more violent and frequent whilst constipation is present, and again there is great difficulty in framing an aperient that will relieve constipation, without producing great pain during its operation.

Nausea is not a common attendant upon this disease, but sudden and sometimes fatal vomiting of blood, or a black fluid, comes on at an earlier or later period. M. Cruveilhier considers the black vomiting peculiar to, (and almost pathognomonic of,) ulcerations of the stomach, to result itself from blood, slowly secreted from an ulcerated surface, and rendered black by its sojourn for a longer or shorter space of time in the cavity of the stomach, and its mixture with the acids of the gastric juice.

Bloody vomiting, in ulceration of the stomach, is by far the most dangerous symptoms we have to contend with. I have certainly seen a patient recover from ulceration of the stomach after several attacks of severe hæmatemesis; these cases are, however, comparatively rare. Discharges of blood rarely occur early in the disease, and when they come on to any extent, a patient is worn out and emaciated by constant pain; they are very commonly fatal. I have more than once seen persons, with ulceration of the stomach, die in the very act of throwing up blood.

Before any vomiting of blood, or black fluid, takes place in ulceration of the stomach, it will very often be found that these matters are passed by stool. The blood is slowly exhaled, mixes with, and colours the food and fæcal matter, and passes off in stools as black as pitch. This symptom, considered with others, will leave no doubt on the mind that blood is slowly oozing from an ulcerated surface; and it will lead to the adoption of measures to prevent the sudden vomiting of blood, which commonly succeeds to the black discharges by stool, of which these latter are, in many instances, premonitory symptoms.

The manual examination of the epigastric region contributes little to confirm our diagnosis in this disease. It is sometimes highly sensible to pressure, at others perfectly indolent. In the advanced stages of disease in the male, where the coats of the stomach are commonly thickened, a tumor may be detected, but, apart from the existence of other symptoms, we cannot say whether this tumor result from mere thickening, the result of chronic gastritis, or whether this thickening be accompanied by ulceration or cancer.

The general appearance of patients suffering from ulceration of the stomach, is haggard and anxious in the extreme. Defective nutrition has produced a paleness in their tissues which is very remarkable; the conjunctiva has sometimes the appearance of the whitest marble, and the whole aspect of the patient, in the advanced stages of disease, even when hæmatemesis has not taken place, is that of a person blanched by repeated hæmorrhages.

We must here enquire into the nature of those symptoms of gastric irritation which precede the actual state of ulceration, in other words, we must look for the causes of this disease; these, I believe, will be found in certain states of gastric irritation, which are very much under the control of medical treatment.

M. Cruveilhier says, "The history of the causes of simple ulcer of the stomach is involved in deep obscurity; or, rather, this disease recognizes all the causes of gastritis for which it has been mistaken. But why is only one single out of the stomach affected, whilst all the other parts of the stomach are in a healthy state!" It is singular so accurate a pathologist as M. Cruveilhier

should have made a statement disproved even by many of his own cases, by the remarkable one detailed in this paper, and by the pathology of the stomach generally. The simple ulcer is met with as frequently double, triple, or multiple, as it is single; and I have never seen a case where this organ has not presented the most unequivocal signs of long continued inflammatory action, most frequently marked by general or partial thickening of its coats. Not only are the consequences of inflammation to be found in the stomach after death from ulceration, but the whole class of symptoms, which precede and accompany ulceration during life, are clearly dependent upon inflammation, as the results of inflammation sufficiently prove.

Ulceration of the stomach succeeds more particularly to two conditions of gastric irritation, which it is important here to notice; these are inflammatory indigestion, or certain forms of gastritis in males, and those affections of the stomach which occur in females whose menstruation is irregular, who are the subjects of hysteria, or who are confirmedly chlorotic. These forms of irritation are clearly of the inflammatory kind, though essentially modified by the state of the economy in which they occur.

I shall endeavour to give a brief account of such of these forms of gastric irritation which I have seen terminate in fatal ulceration of the stomach. The case detailed in the earlier part of this paper, will illustrate in its history, the origin and progress of that form of indigestion which is evidently of an inflammatory character. The fresh attacks of this disease are generally marked by fullness after meals, distention of the stomach, eructations, heart-burn, nausea, pains in the back and sides, uneasiness in the epigastrium, terminating in fixed and constant pain, aggravated by taking food; strong beating of the heart, throbbing of the carotids, head-ache or stupor succeeding a meal.

It is true that in a vast number of instances the inflammatory forms of gastric irritation never terminate in ulceration of the mucous membrane of the stomach, though I believe, from some experience in this class of diseases, that ulceration is a more frequent termination of them than is generally supposed. This opinion is likewise corroborated by the experience of M. Cruveilhier, who, in his second paper on this subject, states this disease to be much more frequent than he had at first supposed.

I have seen the inflammatory form of indigestion, which is a true partial gastritis, terminate in ulceration in five months, from its first commencement, in a patient who had never, previous to this period, suffered in the most remote degree from any affection of his stomach.

M. Cruveilhier believes in the existence of acute ulceration of the stomach, and adduces the case of a patient who died from the disease, twelve months after a slight attack of cholera, prior to which he had been in perfect health. He mentions a second case terminating fatally in ten days from perforation, the subject of it never having been ill before this period, the anatomical characters of the disease shewing it to be a recent ulcer. A third case is mentioned succeeding to indigestion of some months standing, fatal by perforation.

The most insidious and alarming forms of irritation in the stomach, if we regard their occasional termination, are those painful affections, and disordered conditions of the digestive powers which occur in young females, particularly where there is any disorder in the functions of the uterus. It will be found on examination that most patients who are chlorotic suffer more or less from some form of irritation in the stomach or bowels.

Some complain of pain after food, nausea, daily vomiting, diarrhœa, loss of appetite with heat and tenderness in the epigastrium. Accompanying these symptoms there is commonly a dry, red tongue, and the patient suffers from a most distressing weakness.

Not unfrequently, in the midst of these symptoms, or after some partial degree of amendment, the patient is seized with acute pain in the bowels, and

suddenly sinks and dies. On examination the stomach is found perforated in the centre from ulcer, with thickened and elevated edges, the immediate vicinity of which exhibits marks of inflammation and thickening of the coats of the stomach, whilst the remainder are generally very thin, and the mucous membrane in all other points presents a remarkable pallor or whiteness, and is almost exsanguined;—a totally different condition from that observed in the mucous membrane of patients dying from that ulceration of the stomach which is the result of general inflammatory indigestion or pure chronic gastritis. In the former instance the disease is generally confined to a very small portion of the mucous membrane; it is a localized inflammatory action occurring in a constitution in an extreme degree of weakness or irritability, and seated in tissues so badly nourished that they present but little resistance to the fatal termination of the disease in perforation of the coats of the stomach.

I conceive the difference of the circumstances, under which the disease we are now considering occurs (in the male as the result of inflammatory indigestion, on the one hand, and in the chlorotic, or hysteric, or debilitated female already exhausted by uterine irritation, on the other,) to be one most powerful cause why the disease so much more frequently terminates in perforation in the latter than in the former.

I know of no instance where cicatrization of an ulcer of the stomach has been shewn to have taken place in the female. In the male, the case of Professor Beclard will suggest itself to the minds of all, whilst the case now detailed is another and perhaps the most remarkable hitherto recorded. Cruveilhier states that the simple chronic ulcer has a tendency to cicatrize, and Dr. Abercrombie says that he is satisfied that he has seen the cicatrices of such ulcers when the patient has died of another disease, after having been for a considerable time free from uneasiness in the bowels. The latter authority however records nothing definite upon the subject.

I believe ulceration of the stomach to be more frequent in the male than in the female, whilst the fatal termination of this disease by perforation are much more frequent on the part of the female than the male. Mr. Pritchard of Leamington, in a pamphlet on the organic character of hysteria, has collected from various authorities eighteen cases of perforating ulcer in the female, whilst he has only been able to meet with eight recorded ones of the same disease in the male.

It is true that the disease is more frequently verified after death in the female than in the male, but I think it will be found that the disease is more prone to cicatrization in the male from the circumstances I have mentioned, and again in the male its fatal terminations are more frequently by hæmatemesis, and gradual exhaustion, than by perforation, from the simple circumstance that the coats of the stomach generally, or those merely in the immediate vicinity of the ulcer are most commonly the seat of considerable thickening the consequence of long continued chronic inflammation. We do not observe the same causes in the female.

OF THE TREATMENT OF ULCERATION OF THE STOMACH.

The treatment of ulceration of the stomach must be modified to suit the particular kind of affection we are called upon to manage, and hence it must be considerably different in the male, where the disease is the result of gastritis or inflammatory indigestion in any of its numerous forms, and in the female where it occurs in the midst of disorder of the health generally, and upon which, in such instances, I have no doubt it very materially depends.

I shall not here notice any plan of treatment adapted to the forms of inflammatory indigestion, having said enough on this subject in my previous work.

The grand indication in the treatment of ulceration of the stomach is to bring about cicatrization of the ulcer, and this I believe will be best accomplished in the following manner, at least it is the mode I have generally found most successful.

The patient must be limited to the smallest possible quantity of food under which he can be tolerably comfortable, but the wants of the stomach on this head must be satisfied, for if any degree of craving, or irritability be induced by the abstinence, it is carried too far. It must have been noticed by all that have had the care of patients with ulceration that they are tolerably easy except after a meal. They should never be suffered to take meals, properly so called; we should first attempt to discover what kind of food they are most easy under, and small quantities of this should then be taken every two hours, so as to prevent the appetite ever experiencing the sense of hunger, or ever feeling a desire to satisfy it by eating a tolerably hearty meal. It is almost impossible to lay down any rules as to the kind of food under which a patient with ulceration will be most comfortable; it very commonly happens that light animal food agrees better than a farinaceous diet, and I have occasionally found cold weak brandy and water in such instances the best sedative. The stomach must never be distended by food, nor any kind of food administered which so far disturbs the digestive powers as to give rise to the evolution of much gas during digestion, which in itself, is nearly as great an evil as distending the stomach by food. The next point is the condition of the epigastrium, if there be tenderness on pressure, or heat in this situation, leeches must be applied in quantities suited to the powers of the patient till it is removed. Even in the advanced stages of disease, local bleeding from this is highly serviceable; it diminishes congestion, and renders the attacks of pain less frequent and violent. Employed after attacks of pain it relieves that venous distention occasioned by them, which frequently terminates in hæmatemesis. When the stools are black, or bloody, it is highly useful, frequently changing their character by diminishing the congestion or inflammation in the stomach, and checking the exhalation of blood from the ulcerated surface. Hæmatemesis frequently relieves all the symptoms of ulceration, sometimes for weeks; but we must recollect a patient may die, and commonly does die during the attack, these efforts of nature therefore should be imitated by the employment of means likely to bring about the same result. If the epigastrium be indolent, and the stools natural, or nearly so, the next remedy of importance is counter-irritation, by blisters, the antimonium tartarizatum, or other remedies; this should be persevered in constantly, and unceasingly as long as disease remains. I do not think setons productive of much good. I have seen them useless where repeated blistering has afforded great relief. Fomentations laid on the epigastrium and kept on for several hours, sponging this region night and morning with very hot water, reposing in a tepid bath for a considerable time daily, are all remedies that may be employed with advantage. The patient is always worse during constipation; the bowels are best regulated by enemata. If aperients be given they should be of the very mildest character; a few grains of rhubarb with a tenth or twelfth of the muriate of morphia,—the ponderous carbonate of magnesia prepared by Henry or Howard, administered in some infusion of orange-peel, or mint tea, are remedies sufficiently active; the common magnesia is worse than useless. After cicatrization has even taken place all active purgatives should be avoided. M. Cruveilhier records a case of rupture of a cicatrix from violent aperients administered to relieve an apoplexy. The violent peristaltic action of the stomach induced by the aperient had ruptured the cicatrix of an ulcer. Internal remedies are exhibited in ulceration of the stomach with several objects. To relieve pain, to facilitate cicatrization, to check the oozing of blood from an ulcerated surface, or lastly to remedy some general constitutional weakness or irritability which appears unfavourable to the healing of the ulcer.

To answer the two first indications minute doses of morphia may be administered with the trisnitrate of bismuth. The nitrate of silver, first proposed by Dr. James Johnson, will be found very serviceable with this view. The sulphate of iron also may be employed; there is sometimes a sponginess of texture in the mucous membrane in long continued cases of ulceration when these latter remedies are highly beneficial. There is occasionally also a great degree of debility, of languor, of laxity of tissue accompanying ulcer of the stomach, in which the exhibition of tonics becomes necessary, and in such forms of disease the carbonate of iron, or even the *mistura ferri comp.* are employed with great benefit. Every thing that affects the constitution generally has an effect upon the healing of the ulcer, and hence the condition of the health generally demands our strictest watchfulness; the functions of the skin; the state of the bowels; the urine; the epigastric region all demand unceasing attention. I would impress upon the reader that ulcers of the stomach commonly cicatrize, as the state of the general health under which they first made their appearance improves. It is true that they more immediately depend upon the pathological condition of the stomach, but this is most commonly the result of general constitutional causes.

The great difference which exists between the treatment of ulcer of the stomach in the female and in the male, depends chiefly upon the general condition of the economy in which the diseases separately occur, and the pathologic character thus induced in the stomach in which the disease is seated.

PLATE I.

Example of Ulceration in the Wall, the consequence of long-continued inflammatory indigestion, or chronic gastritis. Great thickening of all the coats of the stomach, more particularly the mucous and peritoneal.

No. 1. Large and deep ulcer perfectly cicatrized,—contraction of this portion of the stomach.

2. Ulcer perfectly cicatrized

3. Open Ulceration.

No. 4. Open ulceration.

This example contains eight ulcers, two perfectly cicatrized, two open, the remainder undergoing the process of cicatrization.

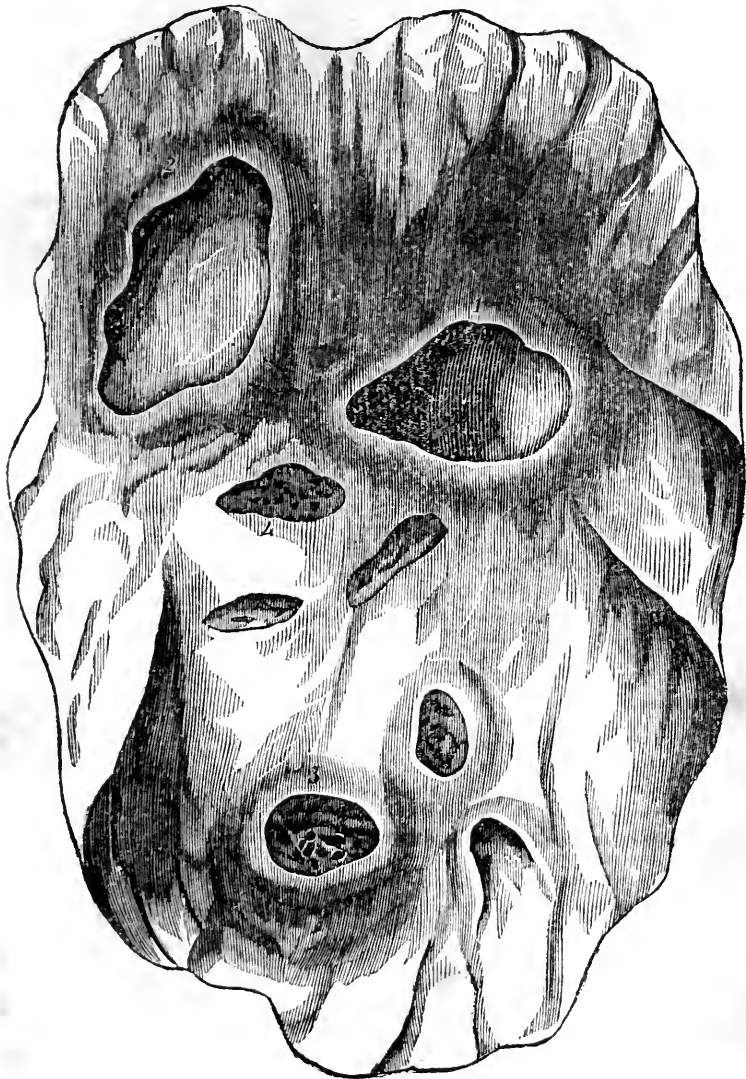
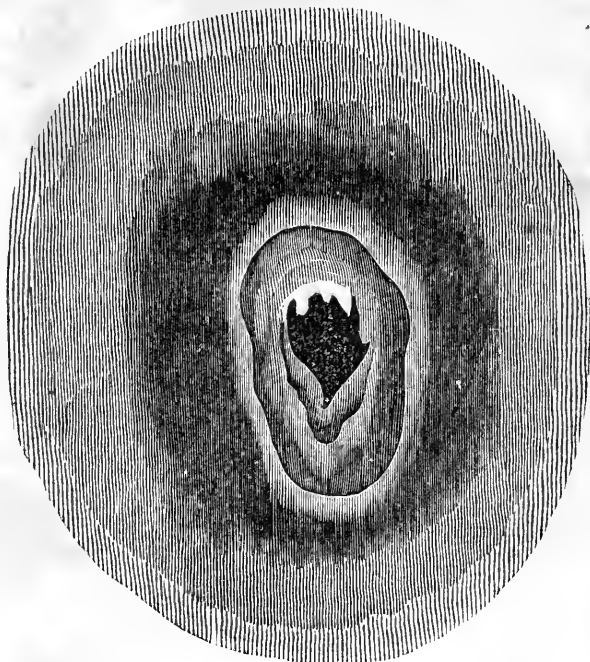


PLATE II.

Ulceration in the Stomach of the Chlorotic Female.—Deep ulcer with thickened edges, fatal by perforation. Blush of redness round the ulcer merely, the remainder of the stomach exceedingly white, coats very thin, almost complete absence of the rugæ.



Thus I have endeavoured previously to explain, whilst the stomach of the male in which ulceration occurs is generally thickened, in the female exhausted by uterine irritation it is thin, while, hardly supplied with blood except in the immediate vicinity of the ulcer. The diet in the treatment of these affections in the female should be administered in the same mode as I have directed for the male; it should be more nourishing but unstimulating; brandy largely diluted is generally beneficial, it is not then stimulating but sedative. Local bleeding is generally hurtful, the blood drawn contains a great proportion of serum, and is sometimes almost acqueous, hardly staining the linen. Counter-irritation by blisters, is here the great remedy, at the same time that we regulate the bowels by mild stomachic aperients or enemata, and administer freely the carbonate or sulphate of iron. Gentle exercise, sedative fomentations to the epigastrium, with sponging, may here be employed as in the last instance; the warm bath must be avoided, but the tepid shower-bath may be employed with advantage.

L. P.

II.

EXTRACT OF A LETTER FROM MR. PARKER.

"Dear Sir,—I must, in the first place, thank you for the elaborate notice of my Work, in the current number of your journal.

* * * * *

What I certainly have a right to complain of, are certain parts of your review in which I am made to say what I never thought, and what I never meant.

1st. The paragraph at page 100 of your review, commencing "Why, if such symptoms are to be referred, &c. &c." is a total perversion of my meaning expressed at pp. 24 and 25 of my work. Your review says, "our author informs integrity of the lungs or their membranes, &c." I say no such thing, no such words, or words from which such an opinion can be deduced. My expressions are, "if no other use were ever to be made of the stethoscope, its value in ascertaining the state of the lung, when the respiration is hurried or quickened from causes not affecting the integrity of the lung or its membraens, but depending upon other causes, would entitle it to be ranked amongst our most important means of diagnosis."

Again, at p. 112, you make me say, "General bleeding can never be necessary or proper, unless acute supervene upon chronic gastritis." I inculcate a different doctrine. My words are, "General bleeding in diseases of the stomach is inadmissible except, perhaps, in very severe forms of acute gastritis, &c. I particularly caution against general bleeding in chronic affections or acute affections depending upon chronic ones."

Yours truly,

LANGSTON PARKER.

We are sorry to have *misunderstood* Mr. Parker on the above points. Certainly it was any thing but intentional *misrepresentation*. In a long and minute analytical review, it is not wonderful that a few misapprehensions should occur.

III.

MEMORANDUM OF THE MILITARY MEDICAL REPORT FROM THE WEST INDIES. By W. Fergusson, M. D.

THE Report not only sets at nought acclimatization, or the seasoning principle, but goes near to deny the existence, or at least the influence, of marsh miasmata or malaria. Now surely this is going too far, and laying too much stress upon the unquestionable fact of the most declared and obvious marshes being at times—often for seasons in succession—altogether innocuous. This belief in the minds of the reporters has evidently arisen from the common observation, that swampy grounds, with stagnant water, have ever been the most prolific source of the marsh-poison; overlooking the fact, that these marshes, or their margins, or parts of them, must be in an advanced stage of dryness before they can become pestiferous; for if they remain filled with water the pestilential malaria will as certainly be extinguished by it, as a lighted candle would be in a disoxygenated atmosphere. Can any one doubt this when he may see, without going beyond the boundaries of Europe, the malaria of Spain infallibly producing its specific effects as soon as the advanced Summer heats become great, and the surface of the earth, that had previously been saturated with the Winter rains, parched and burnt up, and vegetable or animal putrefaction rendered as impossible as it would be in the dried stock fish of Holland or an Egyptian

mummy?—in fact the stage of putrefaction, to which moisture in some degree is ever necessary, must have passed away before malaria can arise. The same phenomena will meet his view in the sandy plains of Alentejo in Portugal, or in the ditches of Walcheren, and I believe (for I have never been there) still more remarkably in the Campagna di Roma, where malarious fever is known to spring as rife as in the Pontine Marshes; the first exhibiting the poison arising out of a dried, the second out of a drying country. In his own country after a hot Summer, he will as certainly see it in the Romney Marsh, or the Fens of Lincolnshire, and he will look in vain for any thing of the kind as long as the ditches are filled, or even contain any water in a cool season. No wonder then that the reporters failed to discover malarious fever arising out of the fullest swamps, because they were then in the precise state when the noxious principle could not be eliminated; but had they observed these very swamps when they were advanced towards dryness, they would then in all probability have found the case reversed. Slow drying would appear to be the most efficient for the concoction of the poison, but there is no reason to doubt that rapid evaporation, or drying, such as occurs after tropical rains, would produce the same effect, or that the rains may prove too powerful even for a tropical sun and extinguish the miasma; and hence arises the diversity of effect during the rainy season in different quarters of the same country and climate; for strange to say it arises out of water, yet is certainly extinguished by that very water as soon as it becomes abundant. Paucity of this element, where it has previously abounded, would seem then to be the essential condition for the generation of malaria; but I acknowledge the subject to be beset with difficulties, for there can be no doubt that it will be found in localities that never were wetted beyond those of a surrounding healthy country and season, and which never could have absorbed water, such as the bottoms of rocky mountain basins* or deep ravines or mountain water-courses, where neither could vegetation ever exist or water stagnate, and yet will give out the most deadly malaria—the highest concentration of the poison. This is strange but true; from which it would appear there are two conditions essential to its production in these places—first, that the steady heat of the atmosphere should amount to or exceed 70° of Fahrenheit—and next, that the depth of both the one and the other should be such as to exclude the breeze, and render perfusion impossible; and yet perfusion will not always save—witness Barbadoes, which is the best ventilated land I ever saw, and Up-park, Jamaica, so often becoming the seat of pestilential malarious fevers. The occult cause must be springing strong from the earth to withstand the currents of wind that there so effectually and frequently sweep its surface; and that its sources are terrestrial, I think, cannot be doubted, from the general healthiness of navigators remote from land (provided the ship herself be healthy) in the tropical seas, where the atmospherical sources, if they at all existed, would prove more decisive and striking than on shore.

The phenomenon of ague prevailing where the thermometer rarely rises to 70, and the country remains in a wet condition, as in Lincolnshire and Holland presents an anomaly in opposition to the foregoing which at first sight is not easily explained. Intermittent fever is an indisputable production of marsh miasmata, yet, as in the Spring agues of these countries, it is often taken from the top of the full ditch, while pestilence—that is all the higher grades of malarious fever—is only to be found at the bottom of the dried or drying one. Moreover they do not often exist simultaneously nor run into one another, nor are their stages of degree, or changes of type from the mild to the malignant, well marked; for the yellow fever generally bursts at once *in medias res*, and invades as if by explosion without preliminary warning from the minor forms of febrile disease. If their sources were altogether the same, we ought in the South of

* Vide Note at the end.

Europe to have ague in the Spring, milder remittent in the early Summer, and the malignant or yellow fever towards its close—but is this the case? The invasions of the last at Gibraltar and the great sea-port towns of North America will I believe testify to the contrary. Can there then be two distinct terrestrial poisons, and are malaria and marsh miasmata different elements? The first can only be sublimated from the earth under circumstances of the highest concoction and preparation by heat. Its favourite abode in all hot countries is at or near the level of the sea, where ague is seldom seen, and it cannot be carried into the higher localities where ague often resides. The absence of water is the sine qua non of its origin in the first case, while water, and that too in abundance, is the parent bed in the milder disease. Can they be then only modifications of the same fever, and can we measure their respective intensities by the ascending degrees of the thermometer? I throw out these queries and suggestions for the consideration of enquiring minds. They are worthy of all the examination that can be bestowed upon them, and the solution, if it can be attained, will be hailed by every friend of science and humanity.*

The electrical condition of the atmosphere has been referred to as a probable source of epidemic fever, but we have never found that to be the case here in the season of thunder-storms, and in the South of Europe it is when the atmosphere is at the driest, without a cloud to be seen, that these malarious fevers prevail, which are generally extinguished as soon as thunder-storms become frequent and the rain falls in abundance. It is a most perplexing subject. Moral causes can never give rise to malarious fever, but they may, and do, deeply influence the epidemic current:—panic—the involuntary sympathies—the imagination and imitative tendencies when in presence of the disease; but, above all, the anti-social, unphilosophic, and baseless doctrines of contagion, all give it force and power, aggravating the disease, and propelling the case toward a fatal termination. Will medical science ever be freed from the dominion of a prejudice which disgraces it, and is the quarantine master ever to make his game of the fears and credulity of the people? The quarantine against yellow fever is everywhere unnecessary and cruel—prejudicial to our commerce in an incalculable degree—disgraceful to the age in which we live, and discreditable in a particular manner to the character of a people laying claim to medical knowledge. It has been said in excuse, that if we discontinued our quarantine, the other nations of Europe, who keep it up would exclude our shipping. Be it so. They could not do worse than make them (query, take) undergo pratique, and we should have the honor of being the first to repudiate a prejudice which has been conceived in groundless fear, and pertinaciously kept up for the benefit of one department to the injury of the best interests of the country.

The assumed prevalence of pulmonary consumption is another part of the Report which calls for comment and examination. The forms and current of disease have been long known to vary at different eras and periods, and if the above be justly founded, it will present as striking an instance of the kind as ever occurred, for when I was first in the West Indies more than 40 years ago, and again there rather more than 20 years ago, and on both occasions for a course of years, I may safely say we had nothing of the kind. Some phthisical young men were seen to die soon after landing, but in all the time of my service I do not believe that I saw a dozen cases of true tubercular consumption originate there. We had plenty of visceral diseases, mostly abdominal, sometimes thoracic; but this last was generally a secondary superadded affair, which could never justify us in setting down the case as consumption because the patient died

* It may be taken nearly as a general rule that the miasmata which generate intermittent fever cannot be called into existence under a less average degree of heat than 60° of Fahrenheit—ordinary remittent under 70°—and concentrated malignant fever under 80° of the same.

with a cough. Marasmus we had in abundance—the atrophy of the pale emaciated drunkard—the *tabes dorsalis* (*mesenterica*) of the young practitioner in rum, who brought with him from his parents the inheritance of a scrophulous constitution, and all these might cough, and even die coughing, yet nevertheless were anything but true tuberculated consumption. In Trinidad and Guiana the above conditions were presented to us under a strange hybrid form, being a compound of disease arising out of the united poisons of rum and marsh miasmata. The appearance was that of the most advanced stage of chlorosis in women—of nostalgia in white men—of *mal d'estomac* (dirt-eating) in negroes. The lack-lustre eye with its bloodless-albuginea cushioned amidst the puffy integuments—the tallowy countenance and the blanched or livid lips with the general leucophlegmasia—the hurried respiration with the irregular failing circulation—all bespoke diseases of the thoracic viscera verging fast to a fatal termination, for the heart and all that immediately depended upon it, had become unfit to perform their functions; that first of vital organs having grown enlarged to an enormous degree—softened like over-ripe fruit loaded with fat and swimming in a pericardium filled with effused lymph, and all this from the superaddition of rum to the endemic poison, because while the men were affected in this way by hundreds I do not recollect a single officer so suffering. They imbibed the regular forms of fever with all its chances, but were saved from becoming such victims as the drinkers of new rum. My immediate predecessor in the West Indies, the philosophic Dr. Jackson, had an idea that the above strange modification of disease resulted from a peculiar miasma generated on the banks of the great rivers of the Spanish main, but it was more particularly a Trinidad disease, where there are no such rivers, and for one that we had so affected in Demarara or Berbice, we had at least ten in Trinidad.*

In Grenada hepatic disease was, as the reporters state, seen to prevail beyond what was observed in other colonies; and this, strange as it may seem, I have heard attributed, not without feasibility, to the *goodness* of the rum for which that Island is so celebrated! The superior quality induced those who could afford it to become punch drinkers in the forenoon. The habit grew common amongst the better classes, and although these thirsty mortals were soon warned of their danger, by the premonitory pains of the right side, the beverage was so delicious and seducing that few could be induced to give it up.

The foregoing appear to me to be the principal points of the Report that require examination. The evidence of numbers in statistical inquiries may not always lead to accurate conclusions. At least it ought to be collated with that of the MORALE of the troops and the physical circumstances, ever varying, under which they may be exposed.

WILLIAM FERGUSON.

Note.—There is a place that I have often passed but never examined, now clean and cultivated, on the Portsmouth road, which goes by the strange name of the Devil's Punch-bowl, and I have sometimes been inclined to think it must have acquired the appellation in former times when, with foul uncleared bottom, and in hot seasons, it gave out pestilential miasmata. The devil has lain at the bottom of many a punch-bowl, as those who drained them have found to their sorrow; but in this bowl, *par excellence*, to those who sought its bottom, the punch, more especially if it was hot, might have helped to keep the devil out instead of letting him in.

W. F.

* My friend Doctor McCabe of Cheltenham, surgeon of the York Rangers at Trinidad when I was there, greatly distinguished himself by his dissections and inquiries into this disease, and if he could now be induced to give them to the world, new and better light might be thrown on the subject.

IV.

MEDICAL REPORT FROM ST. GEORGE'S HOSPITAL.

ON THE MOST EFFECTUAL TREATMENT OF ACUTE RHEUMATISM IN HOSPITAL PRACTICE DURING THE LAST EIGHT YEARS. By *Edward J. Seymour, M.D.* Physician to St. George's Hospital.

Rheumatism, as understood by mankind in general, embraces many different forms of disease, which are carefully separated from one another by the physician. Hence it is applied to the pains accompanying the growth of delicate children, the pains in the limbs felt at the commencement of continued fever, the painful affections of nerves following hæmorrhage, or arising in debilitated constitutions, and nocturnal pains from the abuse of mercury, equally with the severe inflammation of the muscles and aponeuroses, bursæ and joints, which constitute acute rheumatism, or rheumatic fever.

In a practical point of view, these two acute forms of rheumatism have been divided by some physicians into fibrous and synovial, and the two diseases are sufficiently distinct in the difference of the structures which they attack, in their symptoms, and in their termination, to warrant such a division. It is proposed to lay before the reader the experience of one of the four physicians of St. George's Hospital since 1830, in these different forms of disease.

More than 100 cases of acute fibrous rheumatism, or pure rheumatic fever, have been treated by Dr. Seymour during that period.

More than 60 cases of the acute inflammation of the bursæ and joints have also occurred to him.

And 12 cases, where both structures have been attacked, have also fallen under his treatment.

Of these cases regular notes were taken at the time, and from these the following notice is derived.

It is from considering disease on so large a scale that an observer arrives at practical conclusions, satisfactory to his own feelings and beneficial to the public.

ACUTE FIBROUS RHEUMATISM—RHEUMATIC FEVER.

This disease, it is well known, occurs most frequently after the patient has been exposed to cold, but it is remarkable that many persons in the same family appear predisposed to it, and that children of parents who have suffered from it have been attacked by the severe forms at a very early age. The disease consists in inflammation, attacking the muscles of the extremities and the tendons of the joints, and the tendinous expansions, accompanied by most intense pain, a quick and sharp pulse, great heat of skin, thirst, and the tongue is white and furred. The pains are most frequently relieved by warmth, but occasionally increased by it;—in some cases sweats often break out, especially over inflamed surfaces, which only denote the severity of the disease, and by no means relieve the pain. The most remarkable circumstance in this disease, however, is the shifting rapidly not only of the pain, but also of the redness and swelling from one limb to another. Parts under the most excruciating torture are in the space of a few hours left entirely free, and parts at a distance are attacked. It sometimes happens that, on cessation of swelling and redness in the hand or foot, inflammation of an internal viscus takes place, which is almost always, without exception, the central organ of the circulation.

But it is erroneous to suppose that the affection of the heart is always metastatic or secondary to the inflammation of the muscles. In a great number of cases undoubtedly the affection of the heart is not perceived without some cessation of the pain and swelling of the extremities, but in some instances the disease

of the heart manifests itself as early as the development of the inflammation of the extremities.

The pathological condition of this disease (rheumatic pericarditis) will be afterwards considered, but it may here be observed that the disease, whether it appears before or secondarily to the affection of the limbs, consists in inflammation of the pericardium, and subsequent adhesion of its opposite surfaces.

The urine in this form of rheumatism is uniformly scanty and loaded with lithic acid, and the perspiration poured out, whether partial or diffused over the whole surface by sordid medicines, exhales an odour extremely disagreeable to the bystander. The proper treatment of this disease has been greatly contested. The treatment as of a simple inflammatory disease by large bloodlettings and antiphlogistic remedies has on a large scale failed, or has led to a convalescence so tedious and painful as to cast discredit on the cure.*

On the other hand, the advocates for bark have been left in difficulty, or have been able to adduce in their favour only examples of the treatment of chronic mischief the long result of acute inflammation, or, as in several of the cases of Dr. Haygarth, have been obliged to resort to blood-letting late in the disease.

It may fairly be admitted, that the inflammation which affects these fibrous structures is modified by their properties. Thus the inflammation is attended with more acute pain than when seated in a serous or mucous membrane, because it is mixed with spasm, the contractility of muscular parts exposing them more readily to such a morbid action. It is reasonable, therefore, to believe that remedies which reduce inflammation in other parts are only partially applicable when the disease is severe; bloodletting, however, should always be premised to the use of any other remedies, and in no one instance, in the experience of the author of this paper, has this remedy been omitted without such omission becoming the cause of great regret. It rarely happens, however, from the age of the patient, or the extreme severity of this disease, that venesection is to be had recourse to more than once.

After bloodletting and purging the remedy relied upon by Dr. Seymour is the *mistrua guaiaci* of the Pharmacopœia. The gum is here simply rubbed down with sugar and cinnamon water. In 100 cases of this disease in hospital practice alone this form of guaiacum has been used with unerring success in the *severest* forms of acute fibrous rheumatism, and under this treatment, patients, unable to stir the limbs from redness and swelling with acute pain, have in one week been free from the symptoms of the disease, and in a fortnight able to leave the hospital.

The general employment of gum guaiacum dissolved in ammon. (t. guaiaci ammon.) in *chronic* rheumatism, and which is a more stimulating preparation, has led persons not conversant with the use of the simple gum in acute rheumatism, to believe that it is a stimulant, and to ask triumphantly how stimulants can succeed in an inflammatory disease? But if its effects be watched, it will speedily be perceived that this remedy does not act as a stimulant, but as an evacuant, provoking purging, perspiration, and a flow of urine, in a very violent manner; sometimes one, sometimes all these effects follow the use of the medicine. Indeed its purgative action is so considerable, that it is often expedient to give a grain of opium at bed-time to moderate the discharge.

The more acute the attack, and the earlier the use of the guaiacum is resorted to after blood-letting, the more certain and speedy will be the cure. When the disease has continued long and the patient's strength is much broken, but the redness, swelling and pain continue in an inferior degree, this practice sometimes fails; in such a case, a grain of opium alone given every four hours will often

* This remark, like the others, applies to this disease as it occurs in this and other large and crowded cities.

operate like magic, a proof that the disease, in the first instance more inflammatory than spasmodic, has become more spasmodic than inflammatory, and open to the relief afforded by the most powerful agent which the medical art produces for the reduction of increased irritability or sensibility in any of the structures of the human body. Originality is by no means laid claim to in this treatment. The performance of the duty of every hospital physician is alone aimed at; viz. to determine by a steady perseverance on a great scale, the most safe, expeditious, and permanent cure of a very frequent and painful disease.

Though an ancient remedy, the practice is new to many persons in this city engaged in extensive practice. The knowledge of its safety illustrated by extensive experience, and witnessed by many persons in the course of the last eight years, may add something to the resources of those who have not yet employed it. The treatment by calomel and opium, undoubtedly effectual, has the disadvantage of producing a sore mouth; and under the most attentive observation I could give to the subject, relapses have appeared to me to be more frequent, and convalescence more tedious than under the other plan; but for the sake of argument, granting the two methods of practice to be equally efficacious, why should we batter down a town which we can reduce entire, or why resort to the great artillery of physic when milder methods will prevail?

When the heart is already attacked indeed, the case is different, and mercury, to stop or prevent the pouring out of lymph, must be had recourse to.

This disease, comparatively of recent discovery, known to Pitcairn, described by Baillie, subsequently by Corvisart, and the knowledge of it more generally diffused among practitioners in this country by a paper of Sir D. Dundas's, in the Medical and Chirurgical Transactions, commented on at great length and with great acuteness by Dr. Farre, described elaborately by Dr. Latham and Dr. Elliotson, is now unfortunately too well known in medical science from its severity, its frequency, and its fatality.

The pathognomonic condition of this disease is inflammation of the pericardium, shewn after death by adhesions formed of layers or lymph of greater or less thickness effused between the opposing surfaces.

From notes of above fifty post-mortem examinations of this disease in different hospitals, in London, France, and Italy, in no instance has this condition of the heart failed to exist in a greater or less degree, according as life has been prolonged after the first attack. In one case only the adhesion was partial, and this occurred in a youth who laboured under enlargement of the heart, previous to the attack of rheumatism, which under other circumstances was probably not severe enough to have proved fatal.

The second acute form of what is termed acute rheumatism is that which, for practical purposes as distinguished from the former, is termed synovial or bursal rheumatism, being confined to inflammation of, and effusion into these structures.

The structure attacked, the remedies necessary for the relief of the disease, and its terminations, are all distinct from that first commented upon, and in this form also, where the disease suddenly ceases, an internal viscus is attacked.

After the disease, however, is cured in all other points, it sometimes, but very rarely, continues severe in one, as the hip, knee, or wrist, and after a long period of suffering the cartilages of these joints become absorbed—such a termination is marked in the table.

In this case, however, where an internal viscus is attacked, the effusion in the extremities becoming suddenly less, the organ attacked is the brain; but the observer will probably not meet with more than one case of this metastatic disease of the brain, while he may witness daily examples of rheumatic pericarditis occurring after or during an attack of fibrous rheumatism.

It is to this form of disease (synovial rheumatism) that colchicum, the theriaca articulorum of the ancients, is applicable, and in which it produces the most

beneficial effects—where the pain is very acute, combined with antimonials after blood letting, or in the form of extract with Dover's powder once or twice in the day in less acute cases. From among sixty cases in the hospital and nearly as many in private, only a single case has ever occurred to the author of this paper in which the smallest danger arose from the employment of this medicine, and that was in the case of a lady whose strength had already been undermined by long previous illness. Sickness or purging coming on, the employment of this medicine should immediately be stopped; it is affecting the constitution, and it will be found that the pain, swelling, and effusion, in many cases, either have ceased or will cease, after the discontinuance of the use of the drug.

In hospital practice the wine of the root has been found preferable to the wine of the seeds; the author's practice consists, in acute cases, in doses of from ʒj. to ʒss. of this medicine, twice in the day, in camphor mixture—three grains of the acetous extract with five of Dover's powder being given at bed-time—or instead of these, where the pain is excessive, one grain of the inspissated juice with half a grain of opium every four hours.

Such is the explanation of the following table of cases from 1830 to the present time, no cases in private having been included.

Number of cases of acute fibrous rheumatism or rheumatic fever—100; in which the patient was bled—60 once, 25 twice, 2 thrice, 13 not bled; treated after with mist. guaiaci—100; cured—100; died—none; relapses—3; in which the heart became affected during treatment—none. The average period of relief from pain or fever in these cases, was one week.

Number of cases of acute synovial rheumatism—50; in which the patient was bled—20 once, 3 twice, 27 not bled; treated with colchicum—50; cured 48; died 2;—relapses 2;—in which recession to the brain took place—1; of ulceration of cartilages—1.

Twelve cases of acute inflammation of both structures, were treated first with guaiacum and afterwards with the acetous extract of colchicum and Dover's powder.

No. V.

CLARE INFIRMARY.

SELECTION OF CASES FROM THE COUNTY CLARE INFIRMARY. By *Geo. W. O'Brien, M. D., Surgeon.*

DEPRESSED FRACTURE OF SKULL.

WM. Considine, aged 22, admitted on the 10th of August, 1836. About three days before admission received a kick from a horse in his head which stunned him for some time, but from the effects of which he speedily recovered. There is a contused and lacerated wound in the centre of his forehead, of about an inch in length, on passing a probe into which, the bone can be felt much depressed. He complains of much pain in his head; temporal arteries throbbing violently; pulse 100, full and resisting; his tongue white and bowels confined. His pupils are dilated but moveable; he answers questions quickly and distinctly.

V. S. ad deliq. Head to be shaved and cold washes kept constantly applied: haust sennæ purgans.

11th.—During the early part of last night he complained of great pain in his head, but towards morning he became stupid and heedless; pupils more dilated than yesterday, and quite fixed; pulse 48; answers with difficulty. The symptoms of compression of the brain beginning to shew themselves so unequivocally, it was determined, in consultation, to elevate and remove the depressed portions of bone.

A crucial incision having been made, and the flaps of skin raised, a portion of bone about the size of a crown-piece was found to be depressed nearly to the depth of half an inch. Part of the overlapping edge of the sound bone, about an eighth of an inch in breadth, was removed with a Hey's saw, so as to render the depressed portion free, which was then removed with an elevator and strong forceps. This was a much more troublesome and tedious plan than using the trephine, but was preferred to it on account of the much smaller portion of the sound bone which it was necessary to remove in order to render the edges of the depressed part free. The dura mater was found to be quite uninjured, and when the depressed fragments were removed, the brain immediately re-assumed its natural level and the pulse rose to 6. He expressed himself much relieved. The wound was slightly drawn together with adhesive plaster. No symptom of inflammation of the brain appeared after the operation. The wound having been completely healed in about four weeks, he was discharged from hospital perfectly well.

2. DEPRESSED FRACTURE OF THE SKULL.

Dennis Regan, aged 27, first seen on the 27th of July, 1836, having received a blow of a stone, on his head, the day before. He lay quite insensible for some time, but having lost a good deal of blood he gradually recovered, and walked home, a distance of two miles. On the following evening, he complained of great pain in his head, and was intolerant of light. He was hot and thirsty, and his temples throbbed violently. The temperature of his head was much increased; his pulse 120, full; tongue furred; much thirst.

The wound occupied the posterior and superior part of the right parietal bone, as near as possible to the course of the longitudinal sinus, the bone was found to be fractured and considerably depressed.

He was immediately bled to syncope, which came on when he had lost about 30 oz., and ordered to get an ounce of Epsom salts.

R. Calomelanos ʒij., antimonii tartariz. gr. j. M., divide in pulv. vi. 1 ʒtis horis capiend: head to be shaved and cold lotions to be applied.

On the 31st, having been removed to Ennis, (a distance of 13 miles) the heat, throbbing and pain in his head were much less. Pulse 52, full; pupils dilated and sluggish. He is roused with difficulty, is slow in answering questions, and has slept constantly for the last 24 hours.

As the symptoms of compression were now beginning to develop themselves, it was judged advisable to elevate the depressed bone. The wound being about two inches and a half long, an incision was made to cross it perpendicularly, and, on elevating the flaps thus formed, an extensive and irregular fracture was discovered. The portion of bone which was depressed measured over a square inch, and part of it lay nearly half an inch below the level of the sound bone.

A thin but strong elevator was inserted under one of the depressed fragments, so as to give it the necessary firmness. It was then divided into two parts with a Hey's saw, after the removal of which, the rest of the depressed pieces were removed without sacrificing a particle of the sound bone. The inner table was much more extensively injured than the outer. The operation lasted for nearly an hour. The dura mater was quite sound, and after some coagulated blood which rested on it was removed, regained its natural elevation.

Some soft lint was placed in the hollow of the wound, and the flaps lightly drawn together with adhesive straps, &c. Immediately on the removal of the depressed bone his pulse rose to 80 and the stupor disappeared.

Sumat gr. x. calomelanos ter quotidie.

1st. August.—Slept last night; complains of pain in his head, but is perfectly free from stupor; has some heat in his head, and thirst; pulse 96.

Cont. pulv. Calomel.

2d.—His mouth sore ; all pain and heat in his head completely gone. Omit calomel.

He improved progressively from this period, and was quite well in about six weeks.

The course of the above cases was precisely similar ; in neither did the evident symptoms of compression shew themselves until the excitement consequent on the first shock had been subdued. The dura mater, in both, was sound, and the substance of the brain uninjured. In such cases of compression by bone, I believe the safety of the patient depends mainly on the following circumstances : the effectual and early subduing of the excitement in the brain caused by the shock of the accident—the timely performance of the operation—and the removal of as little of the sound bone as possible. It is evident that when once the bad symptoms are ascertained to depend upon pressure from bone, there can be no object gained by delay ; as we know of no treatment that could relieve them but its elevation, and every moment that it is allowed to remain as an irritating body but increases the danger of inflammation of the brain and eventually of the formation of abscess. Though the removal of the bone by means of the trephine is much more quickly and easily effected than by Hey's saw, yet there must be always a much greater loss of the sound bone when the former is used than is necessary to set the edges of the depressed part free. It frequently happens, that the removal of a very narrow piece of the overlapping edge, when done at a proper place, will facilitate the operation much more than that of four times its size with the trephine. By a little management, even large portions of bone may sometimes be elevated without removing any of the sound part.

If we add to the above considerations the fact, that very slight injuries of the dura mater will cause it to slough and leave the brain exposed, and the extreme improbability of recovery taking place under such circumstances, it will afford us an additional inducement for sparing as much of the sound bone as possible.

3. PARALYSIS OF THE PORTIO DURA NERVE TREATED WITH STRYCHNINE.

Terence Raftery, aged 45, admitted on the 17th of July, 1835. He is a thin spare man, of intemperate habits, and by trade a pump-maker. About three weeks before, whilst endeavouring to light a candle by blowing a coal of fire, and being obliged to use considerable force in consequence of the vitiated state of the air, at the bottom of a pump-shaft, he was suddenly attacked by vertigo and dimness of vision, attended with severe pain in the right eye-brow and temple. On being removed from the pit he vomited, and continued to do so for some time. Next morning he perceived, for the first time, that the right side of his face was paralysed, and that the side of his right eye was slightly impaired. He was seen by a medical man a few days, who purged him and put a blister on his temple, but the pain and dimness of vision continued to increase.

On admission, the superficial muscles of the right side of the face were immovable. His speech is very indistinct, though there is no paralysis of the tongue, or any other of the muscles, except those supplied by the branches of the portio dura. He complained of severe pain in the right eye and eyebrow. There is no change in the sensation of any part of his face. There is much tenderness on pressure between the angle of the jaw and the mastoid process, Tongue loaded—appetite bad—pulse 100, hard—bowels costive.

Habeat haustum purgantem—low diet—hirud. xij. regioni parotideæ.

18th. Feels much relief from the leeching. Says that he has more power over the affected muscles, and less pain. Pulse still hard and wiry.

Fiat V.S. sd deliq. Rept. haust. purg.

19th. Has much less pain. Pulse 80, soft.

Rept. haust. purg. Vesicator. reg. parotideæ.

20th. Bowels actively moved. Pain quite gone. Says that his sight is much better.

R. Axungia, ʒj. Strychnina, gr. j. M. ft. ung. loco vesicato applicand.

26th. About four grains of strychnine have been used. He can close his right eyelids a little; but the rest of his face is nearly as powerless as ever. Has no pain.

R. Tinct. strychnina, (Majendies' formula) gttss. vj. Aquæ cinnamonii, ʒj. M. ft. haust. ter die sumend.

August 4th. The natural lines caused by the muscles of the right side of the face are much more distinctly marked, and the right angle of the mouth is higher than it was. The eyelids can be almost closed, and the eyebrow depressed. He complains of a tooth-ache.—Sumat. gttss. x. Tinct. strchn. ter die.

6th. Has considerably more power over the muscles. The appearance of his mouth is natural. He can close his eyelids completely. He complains much of toothache, for which a bad tooth was removed without producing relief. His upper lip is swelled.—Tinct. strychn. gttss. xij. ter die.

8th. He complained of so much pain, which was accompanied by slight salivation, that the strychnine was discontinued. The power of motion in all his face except the eyebrow was quite restored.

11th. Pain and salivation gone. Haust. purgans.

14th. He is again losing the power of motion in his face. No pain present.

Gttss. viij. Tinct. strychnina, ter die sumend.

20th. All appearance of paralysis gone. No return of pain. Left hospital perfectly well.

4. GANGRENE OF THE LEG.

Conner Ryan, aged 28, admitted on the 11th of April, 1837. Seven weeks before admission had a fit of illness for eight days, which appears to have been a slight fever. He had apparently recovered, and was able to sit up, when he was awakened suddenly at night by an unpleasant dream, and experienced severe pain in the heel, toes, and shin of the right leg. On looking at the limb in the morning, he perceived several spots on his foot and half way up his leg, and also some small blisters. His toes were at that time devoid of feeling or motion. In the course of the next evening, the limb was insensible, and covered with dark spots to within three inches of the knee, which quickly ran together, and the whole limb became a uniform dark colour.

It is now dry, shrunken, and black to within three inches of the knee, where a line of separation is established completely down to the bone. He suffers intense agony in the knee, and in the sound flesh at the line of separation, with an intense sensation of burning. Pulse 120, hard—skin cool—tongue moist and not much furred—appetite good—thirst urgent—bowels regular—countenance cheerful and general appearance good, though he is much emaciated.

12th. Was prevented from sleeping much by the severity of the pain. It was decided that the limb should be immediately removed from above the knee. Hip amputation was performed at the lower part of the thigh. Six small vessels were tied. The femoral artery did not bleed. He sunk a good deal during the operation, though but little blood was lost. Stump only drawn together in a temporary manner. It was regularly dressed in about five hours after, when the oozing had ceased, and the flaps presented a glazed appearance. It was necessary to give him a good deal of wine during the operation.

Gr. ss. morphina acetat. horâ somni.

16th. Stump dressed for the first time—more than half of it has united—his general appearance much improved—sleeps well—pulse 96, soft. The ligatures came away on the 24th, and from that time he progressively improved, and was discharged quite well in six weeks.

5. WOUND OF THE POSTERIOR TIBIAL ARTERY

Patrick Burnell, a healthy countryman, aged 42, admitted at nine o'clock in the evening of the 11th of August, 1837, having received a wound from a scythe in his leg, about three hours previously. The point of the instrument had entered the calf of the right leg, behind the posterior edge of the tibia, and nearly at the middle of the limb—then passing upwards and outwards towards the head of the fibula, divided the muscles, but did not protrude through the skin. The external wound is about three inches in length and lies transversely; through it the finger passes into a cavity formed by the retraction of the muscles of the calf. The accident occurred about ten miles from the hospital, and was followed by very profuse hæmorrhage. He was immediately seen by a surgeon, who bandaged the limb very tightly, and he was thus enabled to reach town in safety.

On removing the bandages, the hæmorrhage recurred with much violence, and continued until a tourniquet was applied on the thigh—it was at first entirely venous, and after much difficulty was commanded by tying a divided vein.

The coagula were then sponged out, and the tourniquet relaxed, when an immense gush of arterial blood took place from the deepest part of the wound. Every effort was made to secure the divided artery, but even after dilating the wound considerably it could not be laid hold of, owing to its great depth from the surface, and the quantity of retracted muscles from under which the blood poured with considerable force, when the tourniquet was relaxed. After fruitless endeavours to tie it, for nearly an hour, the patient became so exhausted, that it was deemed advisable to place a ligature on the femoral. The wound being then closed, and firm pressure being made on it by an assistant, the artery was tied a little above the crossing of the Sartorius muscle.

When the ligature was closed the bleeding immediately ceased. The wound was then filled with lint, which was covered by a compress and bandage. He was so faint that it was necessary to give him a glassful of wine after the operation. The leg and foot were then wrapped in flannel.

12th Temperature of affected limb not diminished. No return of the bleeding. Pulse 92, full. There was no return of the hæmorrhage, and the ligature came away on the 24th. The wounds healed in the course of three weeks—and he was discharged from hospital in the middle of September, able to walk tolerably well with the assistance of a stick.

6. BRACHIAL ANEURYSM.

Mary Frawley, aged 60, a healthy countrywoman, admitted on the 22d of October, 1837, labouring under a circumscribed aneurysm at the bend of the right elbow.

The tumor is about the size of a hen's egg—it is tense and shining, with a strong pulsatory motion, which is stopped by pressure on the brachial artery. It is quite soft at the centre, but very hard towards the circumference. She complains of pain and numbness down to the fingers, and a sensation in the tumor as if it were about to burst. Pulse at the right wrist remarkably soft when compared with the other. An oozing, of blood takes place occasionally from the wound, which is but partly closed. The tumor is acutely tender to the touch, and she cannot use her arm. There is a good deal of extravasation about the elbow and down the fore-arm. Pulse 100—tongue clean—bowels free.

States that about ten days before, having had a cough, she got herself bled. That the blood which flowed was of a bright red colour, and came in a jerking manner. With much difficulty, it was arrested by means of a tight bandage, but recurred twice afterwards. The whole of the arm and forearm were very black, and the tumor began to appear next day. She has still some slight bronchitis.

Twenty leeches were applied to the tumor, by means of which the tension and pain were materially diminished. She was put under the treatment necessary for the bronchial affection, and the tumor was again leeches on the second next day.

On the 28th, her cough having been much relieved, the brachial artery was tied about an inch below the middle of the arm—some embarrassment was caused by the large quantity of fat which lay under the skin, but after the removal of a little of it, no further difficulty occurred. On closing the ligature, the tumor ceased to pulsate, and became wrinkled and pale. The hand and fore-arm were wrapped in flannel, and she got half a grain of acetate of morphia.

From this period the tumor diminished rapidly, owing in a great measure to the constant discharge of grumous blood through the wound at its fore part. Pulsation re-appeared in the radial artery in 24 hours after the operation. Some hardness remained at the bend of the elbow after the discharge ceased, it however yielded gradually under the use of camphorated mercurial ointment. She was discharged from hospital on the 28th November, perfectly free from any uneasiness, and with the tumor diminished to the size of a hazel-nut.

7. CHOREA.

Sally Fitzpatrick, a sallow delicate girl, aged 12, admitted on the 29th of Oct. 1837. Had a fever last Winter, since which time she has not recovered her strength, having been subject to derangement of the digestive organs, and presenting many of the symptoms commonly attributed to worms, though she never passed any from her bowels. About four months ago she became affected with an indolent abscess in her neck, and her bodily strength has been failing very much. Within the last two months, slight and transient involuntary motions of her hands and arms were remarked occasionally, but they became gradually more marked and permanent. The muscles of her upper extremities, head, and face, are in constant motion, she makes ludicrous grimaces, and speaks and swallows with much difficulty. She has an incessant and convulsive cough, and occasionally suffers from spasmodic difficulty of breathing. The muscles of her abdomen, and those of her lower extremities are not so much affected, but she experiences much difficulty in walking, owing to her want of controul over their motions. She finds much trouble in passing water, which is copious and limpid; both sides of her body suffer equally; there is no heat or throbbing in any part of her head, nor tenderness of her spine; says that she is in pain; her intellect has not suffered in the least, though she has a foolish expression of countenance owing to the extraordinary contortions which her face is continually undergoing; she sleeps well, and there is a complete cessation of the motions during repose; her skin is cool; tongue clean; no tenderness or fullness in any part of the abdomen; appetite good; bowels confined; stools dark; pulse 112.

Bolus calomel et scammon statim. Haust olei; ricin. cum terebeinth. in hor, vj.

The exhibition of carbonate of iron in the form of an electuary was then commenced, beginning with doses of 15 grains, and gradually increasing to 2½ drachms three times a day. This mode of treatment, combined with occasional purgatives, was continued for three weeks, but though, at first, she improved under its use, it gradually lost its effect, and was productive of much derangement of her bowels.

The use of sulphate of zinc was then resorted to, beginning with two grains three times a day, under which plan she improved steadily. She soon obtained complete command over her lower extremities, and the involuntary motions gradually ceased, remaining last of all in her arms. The sulphate of zinc was gradually increased to 20 grains three times a day. Whilst using it, her appetite improved, and she regained her flesh and colour.

She was discharged on December 2nd, perfectly free from the complaint.

GLEANINGS, DURING THREE YEARS SPENT IN THE INDIAN SEAS. By W. B. MARSHALL, R. N. Author of "A Personal Narrative of Two Visits to New Zealand."

NEW SOUTH WALES.

Colonial Asylum for Lunatics. The only house in the colony for the reception of deranged persons is at Liverpool, a beautifully situated, and neatly built town, anglic village, inland from Sydney about thirty miles. At the date of my visit to it, April 1834, there were 70 inmates;—46 males, and 24 females. They were all lodged in what was formerly the parsonage house—a very defective building for such a purpose. Hardly a ceiling to either of the five rooms on the male side, but admitted both wind and water in rainy weather.

The cleanliness pervading every part of this ruinous edifice, was, however, highly creditable to the superintendent, who was absent at the time of my inspection.

Each patient was dieted according to a permanent scale, varying only as the medical attendant might see fit, of full—milk—or low diet. The *first* consisted of meat, bread and vegetables, of each, a pound; and two pints of tea, with proportions of milk and sugar. The second, or milk diet, was composed of milk, bread, and tea. And the third, or low diet, comprised milk, bread, tea and soup.

The bedding of every individual was the same, unmodified so far as I could ascertain, by the different circumstances of different cases. One bed, one blanket, and one rug, was the whole allowance, unquestionably insufficient for the maintenance of warmth during the winter months. One poor fellow, 89 years of age, and bed ridden, complained to us of cold as we stood by his bed-side, although it was the middle of a very warm day. They sleep on iron bedsteads, only two of which were occupied during the day. The lower half of these bedsteads admitted of folding over the upper, by means of a hinge joint in the middle, and upon the frame thus contracted to one half, the bedding was neatly folded and laid from morning till night. This contraction of the bedsteads gave an appearance of airiness and lightness to the rooms, which they would otherwise have wanted.

In the men's wards there was no apparent want of space, in which respect they differed very greatly from the principal sleeping apartment of the women. There, the beds touched one another, and even then were not sufficient to accommodate all, some of the patients having to lie on the floor.

The entrance to the female part of the establishment leads through the kitchen, one door of which opens into a small yard, where the inmates of the apartment above-mentioned, and of three lesser rooms, are permitted to breathe the air, and behold the light of Heaven; it is too small to admit of their taking exercise in it—and as for amusement or recreation, neither appeared to have been thought of by those to whom it was left to minister here to "minds diseased."

In one of the smaller rooms, a decently dressed woman, was reading. In a second, a poor old woman sat in all the moodiness of melancholy, complaining of many wants. Some of her complaints, we thought, had more of reason in them, than of madness. One was for the want of shoes. The other, and bitterest, was at being made the companion of a poor idiot girl, who lay coiled up at her feet in a state of stupid insensibility.

In a third room, the door of which was locked, a woman was walking to and fro, wrapped in a blanket. On my approaching the grated window of her cell, she advanced towards me, threw off the blanket, her only covering! and, shaking herself with all the wild energy of a New Zealand warrior, began raving so loudly and horribly, that I was quite unmanned, and could remain no longer

within sound of her cry, nor gaze further upon the sad wrecks of human understanding laid up in this abode of most utter wretchedness. Upon enquiry being made, why she was left without a vestige of raiment, in defiance of all decency, to say nothing of humanity, the pert reply was, and in a tone which plainly shewed that the party was altogether unused to be catechised by the visitors of her patients, if, indeed, they be ever visited except as a matter of form and course, by persons officially connected with the institution:—"What's the use? she tears them off, as fast as they are put on." As though a straight-waistcoat which should leave her hands at liberty, so long as she attempted to inflict no injury upon her own person, would not have baffled her attempts to remove it, and served at the same time the purposes of decency.

There is no employment found for any of the women; and of this, one young person complained most piteously.

There is no separation whatever of the graver, and more sober-minded, from the wild and frantic. And, the space, both in-door and out-door, allotted to the females, is altogether insufficient.

The male department seemed to be in far better hands than the female. More tenderness, more kindness, more patience were exhibited during our short visit, by the overseer who accompanied us, than by the coarse woman, who filled the office of matron, or nurse. The faultiness and deficiency of such an establishment, too, must be laid at the door of the colonial government, or charged against those to whom the management of such places is entrusted, rather than to the individuals by whom the details of such management have to be executed. In any, and every establishment, let the superintendence be vigilant and intelligent, and the moral machinery can hardly, and will but rarely go wrong.—*April, 1834.*

From "sight so deformed and strange," I gladly turn to another institution of eminent and extensive usefulness, and reflecting great credit upon the colony and the Colonial Government. The institution to which I refer is denominated "*The ASYLUM for Poor, Blind, Aged, and Infirm,*" "designed," to adopt the language of an appendix to the fourteenth annual report of the Benevolent Society of New South Wales, "for the reception of all persons who are unable to maintain themselves, either through age or bodily infirmities." It took its rise from the discovery made by some individual while administering spiritual consolation to the sick, of the necessity existing in many, perhaps in most cases, for the combination of temporal with religious help.

The Benevolent Society, to which it is an appendage, was founded in 1818, its object being two-fold, "to relieve the poor, the distressed, and the aged, and thereby to discountenance as much as possible mendicancy and vagrancy, and to encourage industrious habits among the indigent, as well as to afford them religious instruction and consolation in their distress."

This interesting institution stands a little removed from the highway at the entrance to the town of Sydney from the Paramatta road. The building itself is yet unfinished, having only the centre and one wing completed. The rooms are all good and have three requisites of air, light, and spaciousness; the first and last being essential to the health, the second contributing greatly to the cheerfulness of the inmates.

At the date of my visit, May 6th, 1834, there were two hundred and thirty persons there, to lodge whom there are ten wards of different sizes from the large bed-room in which the majority of the men sleep, the length of which is 95 feet, the breadth 24 feet, and the height 12 feet 6 inches, to the room by which communication is had with the female sick wards above, the length of which is only 14 feet 8 inches, and the width 10 feet 6 inches.

The dining-room on the ground floor, is a noble apartment. At one end there is a platform raised about eighteen inches, and on it a table, and a small reading desk, from which prayers are read twice a day, to all the inmates who are able

to attend, and a sermon preached every Sunday, and every Friday afternoon as well, by all the ministers of the different denominations in rotation.

Men and women eat together, but at separate tables, of which there were fourteen spread when I saw them; two being used by the women, the remainder by the men: the average number of each was nine or ten. They have three meals breakfast, dinner, and supper, and the scale of rations transcribed below seems in every respect ample—compared with the dietaries of our English poor, under the new poor law system, it is calculated to excite surprise and astonishment.

The food which I saw them using at two of their meals, was good, though plain.

The following is the scale of rations above mentioned:—

	MEN.		WOMEN.	
	lbs. daily.	lbs. weekly.	lbs. daily.	lbs. weekly.
Bread.....	1½	8½	1	7
Meat.....	1	7	½	5½
Vegetables.....	½	3½	½	3½
	Ounces.		Ounces.	
Tea.....		1½		1½
Sugar.....		10½		10½
Tobacco.....		1½		1½

There are several sick wards of various sizes. That on the ground-floor to the right of the entrance, was used for men, and very crowded, but clean and well ventilated. It is 40 feet 9 inches long, 22 feet wide, 12 feet 2 inches high. Five windows, two large Italian in the front of the building, and three smaller sized behind, illuminate this ward, and, with the door and fire-place, contribute also to ventilate it. There are also two smaller wards on the first floor, connected with each other by a partition wall and door, which might be removed with great advantage to the occupants of both wards. They are each 20 feet long, 22 feet wide, and 12 feet 6 inches high; one of them is lighted by an Italian window in front, and two smaller windows behind; the other by three windows, one in front, another at the back, and a third at the end.

At the head of the staircase leading to these sick wards, is a small room, at once the dispensary of the establishment, and the sitting and sleeping apartment of the resident surgeon, whose poverty and not whose will acquiesces in his immuring himself in such a pitiful habitation, with the scanty salary of *sixty pounds a year* for the professional superintendence and care of so many aged, infirm and diseased persons.

The Benevolent Asylum being more of a hospital than anything else, the entire oversight and government of such an institution should be vested in a surgeon, with a master and matron under him, having inferior salaries, yet adequate to insure a certain amount of intelligence, and to guarantee and reward the exercise of a diligent zeal. The surgeon's salary should be sufficient to warrant his being restricted from the exercise of private practice,—such as would enable him to live as becomes the member of a liberal profession, and to command the respect of all the subordinate departments in the same establishment. There is a penurious economy, which, at the best, is but a parsimonious profligacy. Cheapness is not goodness, either in labour or any other marketable commodity.

In each of the sick wards there is a diet table hung up, containing the name of every patient, and opposite it the scale of diet upon which he is placed. There are two such wards for the females on the first floor, also an arrangement decidedly objectionable, from the old age of the patients, and the want of space for them to take exercise in, without descending a lofty staircase. Room would be gained by the removal of the partition-wall which separates these wards, and, if the patients were allowed the use of the adjoining long-room to walk in during the day, this objection would be obviated. Whether, in an establishment of this kind, the hospital department should be above or below, is a

question of some difficulty. That all the bed-ridden might be kept up stairs without injury to themselves, or inconvenience to others, such only excepted as would be in attendance upon them, is certain; that, by removing them below, those would be compelled to occupy their vacant places above, who, from above, could descend only with difficulty, yet who, from an apartment on the ground-floor, might easily and often go abroad into the open air, and be thus maintained in good health and cheerful spirits, is equally certain. And, therefore, with the alterations proposed above, it were perhaps desirable to remove the whole hospital to the upper story. It is in contemplation to complete the building by the addition of a second wing, in which case, it is hoped, the centre will be kept for a hospital, the party-walls knocked down, and the inmates less crowded.

There are four smaller wards on the ground-floor, in the centre of the building; one of which was also used as a laundry. They were all occupied by women, and excessively crowded.

A set of out-houses have been raised in the rear of the asylum. These are—1st. The master's house. He and his wife, the latter acting as matron, receive 104 pounds per annum as their joint salary, an inmate for a servant, and lodging free—not one farthing too much for them, but very much more than is allowed to the surgeon of the establishment. Yet, I suppose, no one will affirm that there is any thing like a correspondence between the duties of the one, and those of the other, either in the talent, ability, or knowledge required for their right discharge, or in the fearfulness of the responsibility entailed upon those by whom such duties are to be discharged.

The second building is the bake-house and kitchen, a large and commodious place from which each inmate who is able fetches his own food when cooked, and carries it into the dining hall.

A third building is the wash-house, a room without a window, the only admittance for air and light into it being through the door, which must particularly during the parching Summers of this country, prove highly detrimental to the health of the persons employed.

A fourth of these out-houses is a long shed, 50 feet by 15, appropriated as a dormitory for upwards of 50 persons, chiefly the blind inmates of the asylum, and those afflicted with diseases of the eye. And here I may mention a curious fact, upon the authority of every one concerned in the immediate management of the institution, that the blind, young and old, were the most vicious, depraved, and abandoned of all the inhabitants.

There is a fifth room, 25 feet by 8, which the constable and his wife, both inmates of the asylum, occupy; and a far better apartment it is than that which serves the double purpose of dispensary and surgeon's sleeping, sitting, and eating room!!! The constable receives a gratuity of half-a-crown a week.

The water-closets are detached from the house; those for both sexes being under one roof, and only separated by a slight wall, the sole purpose served by which is an *appearance* of decency.

There is an excellent garden, the produce of which supplies the whole establishment with vegetables. There are also two yards, one for drying the washed linen, and the other for airing the bedding. The whole extent of ground covered by and attached to the asylum is four acres. The site of the building is beautiful and commanding, as well as healthy.

There are eighteen rules for the asylum; the two first relates to the admission and discharge of proper objects;—the 3d. promises permission to the well-conducted to visit the town occasionally;—the 4th, provides that "people admitted shall be variously employed, according to the ages and peculiar infirmities of the individuals, and they shall be allowed certain small indulgences, or premiums, on account of their work done, to be settled by the Committee;"—the 5th, that "the people shall rise in the morning and go to bed in the evening at an early hour and they shall be assembled for divine worship every morning and evening;"—

the 6th enjoins that "the lodging apartments be kept clean and well-aired; and the bedding inspected and folded every morning, and taken out for the benefit of the sun twice each week;—the 7th states that "when any man or woman is sick, removal shall take place to a separate room, and all proper attendance shall be afforded"—the latter may be practicable, but the former is impracticable, unless by removal to a separate room be meant removal into a sick ward;—the 8th, directs suitable clothing to be provided; and that it be kept clean and in repair;—the 9th orders the body-linen to be well washed and changed twice in each week and the bed-linen once a fortnight;—the 10th is, that "the eating-room shall be kept clean and well-aired, and the people shall therein assemble for breakfast, dinner, and supper, when grace shall be said before and after meals." 11, 12, 13, 14, relate to financial matters. The 15th to the election of a house committee, to sit weekly, and see that the rules are enforced, two being competent to act. The 16th and 17th to the appointment of official visitors, who perform their functions successively each for one week; the visitor for the week being requested to attend the meeting of the house committee, who sit weekly, and to report any thing he may deem necessary. He is empowered, on any urgent occasion, to direct the masters. The 18th directs a book to be kept for the insertion of the visitor's names, &c.; but, while it requests "the visitors, members of committee, medical attendants, or officers, to enter any observations they may wish to be brought before the committees," it only provides for inserting "the names of subscribers, or other respectable persons visiting the institution," leaving no room for any remarks they might have to make—affording no opening for any suggestions from them, however important, or however valuable. This rule, however, very properly enjoins, that "any special instructions the visitors or officers may give to the master, be recorded."

The expense at which the Benevolent Asylum is kept up, is remarkably small. The sum total of receipts collected for the furtherance of the objects of the Benevolent Society, and which, it must be noticed, are not confined within the walls of this building, only amounted to £1,789 13 4 for the year ending May 31st, 1833. Of this sum eight hundred pounds are a donation from Government, which, very humanely, supplies the annual deficiency between the receipts from other sources and the expenditure. L.191 12 0 are *finer*, from benches of Magistrates. L.7 18 5 proceed from the effects of deceased prisoners. L.89 5 9 for the maintenance of paupers. L.62 8 10 "for work done in the Asylum. Rent of a house belonging to the Society, loans repaid, and the sale of live stock." So that, after adding to the above, the balance left from the last year, all the assistance obtained from the benevolence of the New South Wales public, from the joint sources of donations, subscriptions, and collections in different places of worship, may be summed up in the contemptible balance of six hundred and twenty-nine pounds, eight shillings and four pence; not the hundred and sixtieth part of the duty paid by that public to Government, for a single one of the many luxuries in which they are able to indulge, viz.—*foreign spirits*. The above balance is so small and disproportioned to the population of the territory, that, if divided equally between all the inhabitants of Sidney alone, understating its population at 17,000, each individual would only incur the expense of one shilling and threepence-halfpenny and the fraction of a farthing!

The expense attendant upon each inmate has been calculated to fall short of ten pounds per annum; a sum almost incredibly small, were it not that the two principal articles of food, bread and meat, are incomparably cheap.

The average ages of the inmates in the Asylum, during the year ending June, 1833, were above 60. "Those of the younger classes which deduct from a higher average, being blind, paralytic, or affected by weakness of intellect."

W. B. M.

P. S.—It gives me much pleasure to add to the above extract from my journal—

1st. That, having been favoured with the friendship and confidence of different members of the managing committee of the Benevolent Society, the perusal by them of the remarks now made public, and the consideration of oral representations by me on the subject of Mr. Cuthill, the house surgeon's salary, led them to increase it at their next annual meeting, to, I think, L.90 a year, an increase of one-half, perhaps more, but my memory does not now serve me on that point.

2nd. To prevent an unfavourable conclusion being drawn from my calculations, as to the amount of support derived by the institution from the assistance of the humane and kindly disposed inhabitants of the colony, I gladly transcribe a MS. note upon my journal of my valued friend, T. C. Harington, Esq., the talented assistant colonial secretary of New South Wales. "*Many reserve their subscriptions for other societies, knowing that in this all deficiencies will be made good by Government.*"

W. B. M.

VII.

CASE OF RUPTURE OF THE HEART. By *Jas. Stephen*, M.D. Elgin.

[*Communicated by Dr. Theodore Gordon.*]

THE unwearied attention paid of late years by anatomists and pathologists, both at home and abroad, to morbid anatomy, has clearly demonstrated that rupture of the heart is not an unfrequent disease; and probably, were country practitioners more in the habit than they are of inspecting bodies, many cases of sudden death, referred to apoplexy or cramp, would be found to have proceeded from lesions of this important organ; and that extensive alterations of the structure of the heart may take place, without any warning, until within a very short period of the fatal event. The following case appears to me a good example.

Mr. Manison, a man of sixty-one years of age, had, for the last five years, enjoyed uninterrupted good health; if I except occasionally in the winter months, slight catarrhal complaints, chiefly affecting the throat, and producing a degree of deafness. He was of very regular temperate habits, and took abundance of exercise in the open air daily. Previous to the 15th of this month, the day on which he first complained, I had an opportunity for weeks before of seeing him almost daily, and he frequently walked with me four or five miles in the forenoon, and never at any time expressed to me his having the slightest uneasiness of the chest or oppression of breathing, whilst his appearance was that of a man in perfect health, somewhat inclined to corpulency. On the morning of the 15th, he took breakfast in apparent good health, and went out afterwards to a man who was employed by him chopping sticks (slender boughs of trees), and when in the act of handing one of these to the labourer, but without the slightest exertion on Mr. Manison's part, he was suddenly seized with acute pain across the sternum, shooting along both arms to the hands; the pain did not impede his breathing, but brought along with it such a sense of sinking and anxiety as prevented his making any exertion. This distressing state continued for nearly an hour, but gradually lessening, it entirely left him about the expiry of that period. I saw him about two hours after his first attack, when he described his feelings, as narrated above. I found his pulse of good strength, perfectly regular, and not exceeding seventy-two beats in the minute. There was no palpitation or fluttering about the region of the heart, and he made a full inspiration with perfect ease. His tongue was clean and moist—notwithstanding their favourable appearances, the symptoms described were so pathognomonic of organic disease of the heart, that I had little doubt a second attack would ere long be experienced. In the mean time, I directed my patient to

keep quiet; to take a full dose of opening medicine, and to confine himself to a very low diet, such as gruel, &c. His medicine operated freely, and in the evening, when I again visited him, no further attack had been experienced. About ten o'clock the following morning I saw him. He said he had passed rather a restless night, but was free from pain; there was little or no difference of the pulse, and I left him with an understanding, if any unpleasant symptom occurred, he would immediately let me know. I was soon after obliged to go into the country, and had not an opportunity of again seeing my patient till about three o'clock in the afternoon. In the interval, I was informed Mr. Manison had called at my house about 11 o'clock, wishing to see me, and about two hours after, his servant delivered a similar message. On my visiting him, about three o'clock, he informed me that, about half an hour after I had left him in the morning, the pain across the chest, and down the arms and hands had again suddenly attacked him; but thinking a walk in the open air would not be against him, he had called himself at my house, but found all the symptoms so much aggravated by the exertion, that he was glad to return home. The pain, after keeping himself in a quiescent state, subsided considerably, but was not removed when I saw him at three o'clock; and there was an expression of uneasy anxiety in his countenance, more than I had before witnessed. His pulse was about 82 beats in the minute, regular and of good strength.

I now proposed taking some blood from his arm, to which he readily agreed, and I took off in a full stream 16 oz., which he bore well. I desired him to keep quiet in bed, and in about half an hour after, I left him; he, at this time, expressing himself to be considerably easier. About half-past five o'clock I again visited my patient, found him easy, pulse of good strength, regular, and beating 76 in the minute. On inspecting the blood two of the cups had put on a slight buffy appearance, the other had none. It was my intention to have called again about nine o'clock, to have given my patient an opiate, but about half-past six o'clock I was suddenly sent for, being informed he was much worse. By the time I reached him, which might have been fifteen minutes, the severity of the attack was over, but he expressed himself as having suddenly suffered most severely from an aggravated attack similar to the former, and the impression brought along with it of immediate dissolution. He was still bathed in a cold clammy sweat and his pulse was rapid, weak, and irregular. I gave him, as soon as possible, an opiate, composed of twenty drops of black drop, with some sweet wine, which had a favourable effect in tranquillizing him, and, having remained probably twenty minutes with him, his pulse became less frequent, regular, and of better strength, though feebler than formerly. He was now much more comfortable; though still complaining of pain about the sternum, and along the arms and hands. I again called on Mr. Manison betwixt eight and nine o'clock in the evening, taking along with me a respectable practitioner of this town. We found him much in the same state as I had left him, and we agreed the opiate should be repeated about 11 o'clock at night, or earlier, if more uneasiness was experienced. Next morning by eight o'clock, on visiting him, I learned the pain, although in a moderate degree, had continued till two in the morning, after which it altogether left him, and he expressed himself as being easy, whilst his countenance was cheerful, and he requested he might have breakfast. At this time his pulse was not above 68 in the minute, perfectly regular, and of good strength. I left him with an understanding I would again see him about ten o'clock, with an intention of applying a blister to the chest; but I did not again see him alive. He took breakfast with relish about nine o'clock, and his servant having left the room for a few minutes, upon hearing some slight noise speedily returned, and found her master dead.

The following day I had an opportunity of seeing the body inspected. Its exterior appearance was that of a man of good health, somewhat inclined to obesity. On removing the sternum and inspecting the chest, the cause of the

suffering and death of the patient was soon made obvious. On making a slight cut in the pericardium a considerable quantity of serous fluid escaped. On farther enlarging the opening it was found stuffed up with coagulated blood. The heart was now carefully removed and inspected, and on the anterior surface of the left ventricle, near the apex, the parietes were found ruptured, and the blood had escaped through an opening that would freely admit a goose's quill. A little higher, separated from the other by some slender muscular fibres, a second minute one might be seen, through which a small probe might be passed. The whole substance of the heart was unusually soft and flaccid; this was less obvious at its base than at the apex, where it might be easily lacerated by slight handling, and more resembled at that part the substance of the liver than the muscular appearance and structure of a healthy heart. The whole of the left ventricle had more of the ramollissement than the other parts, and when the parietes were felt betwixt the fingers, so much had absorption taken place, that one part about the space of an inch appeared not thicker than a piece of broad cloth, and it was here lesion had taken place. The base of the heart was considerably loaded with fat. The large blood-vessels connected with the heart were sound as were the valves. The lungs were in a healthy state, but there were numerous old adhesions betwixt the pleura pulmonalis and costalis.

On reflecting on Mr. Manison's case, it does appear extraordinary that no premonitory symptoms of his disease were experienced until within two days of his death. It can hardly be doubted that, long before this period, disease of the great central organ of the circulation had been going on, and yet all its important functions were performed well, and no inconvenience was complained of. Even an hour before death the pulse was regular and little diminished in strength, and if, in hypertrophy of the heart, when the parietes are thickened, muscular action is powerfully increased, we might naturally expect in a disease the reverse of this, a feeble, irregular, intermitting pulse would have, in an earlier stage, been some index to the nature of the disease. On the contrary, it appears that ramollissement and absorption tending to a fatal lesion of the parietes of the heart, may be going on without either physician or patient having any warning of the presence or progress of this fatal complaint.

JA. STEPHEN, M.D.

Elgin, June 22, 1838.

VIII.

INVERSION AND EXTIRPATION OF THE UTERUS.

To the Editors of the Medico-Chirurgical Review.

GENTLEMEN,

In No. 51 of your very instructive Journal, there was published a case of inversion and extirpation of the uterus; I now beg leave to send you a farther account which may be instructing, as shewing the ultimate condition of the patient in such cases. I have seen the individual several times at distant intervals, and will give you the report that was made on each of those occasions.

I am, Gentlemen,

Your very obedient Servant,

Newport, I. W.
August 20th, 1838.

JOHN C. BLOXAM.

June, 1837. She has continued to improve in health and strength since the last report (Sept. , 1836); she is not so nervous not so easily frightened and agitated as she was at that time, but still she deplores her great weakness and folly in this respect. She has twice experienced a repetition of the colored dis-

charge; on the last occasion it had more of the menstrual appearance and its occurrence was preceded by the usual pains, without any incidental cause.

January, 1838. The discharge has occurred several times, but at irregular periods, during the last six months. On the last occasion, she considered the occurrence to bear a much closer resemblance to the catamenia than it had done before; it was preceded by a good deal of the usual pain, which was relieved by a discharge continuing for two days, but which was of a scarlet color.

July.—She considers her strength to be now fully restored, both morally and physically. A spurious sort of menstruation occurs at periods varying from six to eight weeks, the discharge being more scarlet in color, and more scanty in quantity than natural, and continuing for three or four days. She says that she is not conscious of being in any unnatural condition, nor does she suppose that her husband is. With the exception of the imperfect state of the menstruation, she is not aware of any reason for supposing that she is not as liable now to become pregnant as she was previously.

IX.

MR. PEARSON THOMPSON, AND DR. DICKSON.

To the Editor of the Medico-Chirurgical Review.

SIR,—In the advertising sheet of your last Number, Mr. Pearson Thompson publishes, for the fourth time at least, the charge he made against me in all the Cheltenham papers, of writing him anonymous letters—a charge by which he hoped to fasten upon me the authorship of certain articles in the *Satirist*. That charge I triumphantly refuted in the *local Journals* when it was made. The facts elicited were the following.

First, as respects the *Satirist*:—In the very number of the *Satirist*, which formed a ground of complaint, appeared a long libel on *myself*—containing, among other accusations, a charge of putting out the eye of a Mr. Hamlet—and of writing an *anonymous* letter.

2. In an *anonymous* letter published in the “*Looker-On*,” a puffing vehicle in *Mr. Thompson’s interest*, I am charged with putting out the eye of this same Mr. Hamlet. Who the writer of this anonymous letter is, Mr. Thompson *must know*. The writer of one must be the writer of the other.

Now for the anonymous letters in Mr. Thompson’s possession:—

1. Dr. Irving, late of the Madras Medical Staff, having *at the request of Mr. Thompson*, inspected the letters, not only declared them *not* to be in my handwriting, but tendered his *oath* to that effect.

2. When asked on my part to show them to Dr. Selwyn, a gentleman well acquainted with my handwriting, Mr. Thompson not only *refused* to do so, but declared his determination to show them to no one coming from me!

3. The editor of one of the Cheltenham papers, wrote to me as follows. “You have been accused unjustly of being the writer in the *Satirist*—and as I know who is the writer in the *Satirist*—and the writer of the letter marked No. 9, who has avowed to me professionally, and in confidence, I have no hesitation in stating that, if you choose to proceed against the *Chronicle* for libel, I am ready to prove *on oath* that you are *not* the writer.”

Mr. Thompson must have been singularly blinded by his passions, when he appended the truly *impartial* “opinion” of the *Cheltenham Chronicle* to his letter for your pages. From whose pen did that opinion come? It appeared, not *after* my reply, but *simultaneously with the charge!* and *before* I was even made acquainted with its nature. A hireling paper, or its employer, seldom adheres

to the rule AUDI ALTERAM PARTEM. Let me therefore quote from *two* influential Cheltenham papers, whose opinions will not have the less weight when it is considered that they not only remained silent till the publication of my reply, but that they *then* were and *are* to this moment at variance in their politics and interests.

Cheltenham Journal,—Conservative. "Dr. Dickson has vindicated his character."

Cheltenham Free Press,—Liberal. "Are such trumpery, vague, and futile imputations as these to be tolerated for an instant! Is a gentleman of character and honour to be assailed by such assertion! Dr. Dickson forgot himself when he sent a hostile message to Mr. Thompson. An indictment would be the proper course." Need I add, that the Cheltenham world has but one opinion of Mr. Thompson's now worn-out charge, and of the spirit, and manner in which it was *got up* against me!

I am, Sir,

Your obedient servant,

S. DICKSON.

Cheltenham, 1st August, 1838.

TO CORRESPONDENTS.

We had prepared a long analysis of the Army Medical Reports from the West Indies, but a pressure of other matter has compelled us to postpone its insertion till next number. We did not deem it necessary to postpone Dr. Fergusson's memorandum on the same subject.

To the Medical Officers of Hospitals and Infirmaries.

As we now dedicate two or three sheets of Extra-Limites quarterly to the publication of select Clinical Reports and important cases, a favourable opportunity is afforded to hospital physicians and surgeons, to make known their experience, both in this country and America. The Reports are requested to be forwarded as early in the quarter as possible

Dr. Sharkeys's paper on the epidemic cholera of last year in the South-west of Ireland, is received, and under consideration.

We have to apologize for the omission of several articles in this number. They will appear in our next.

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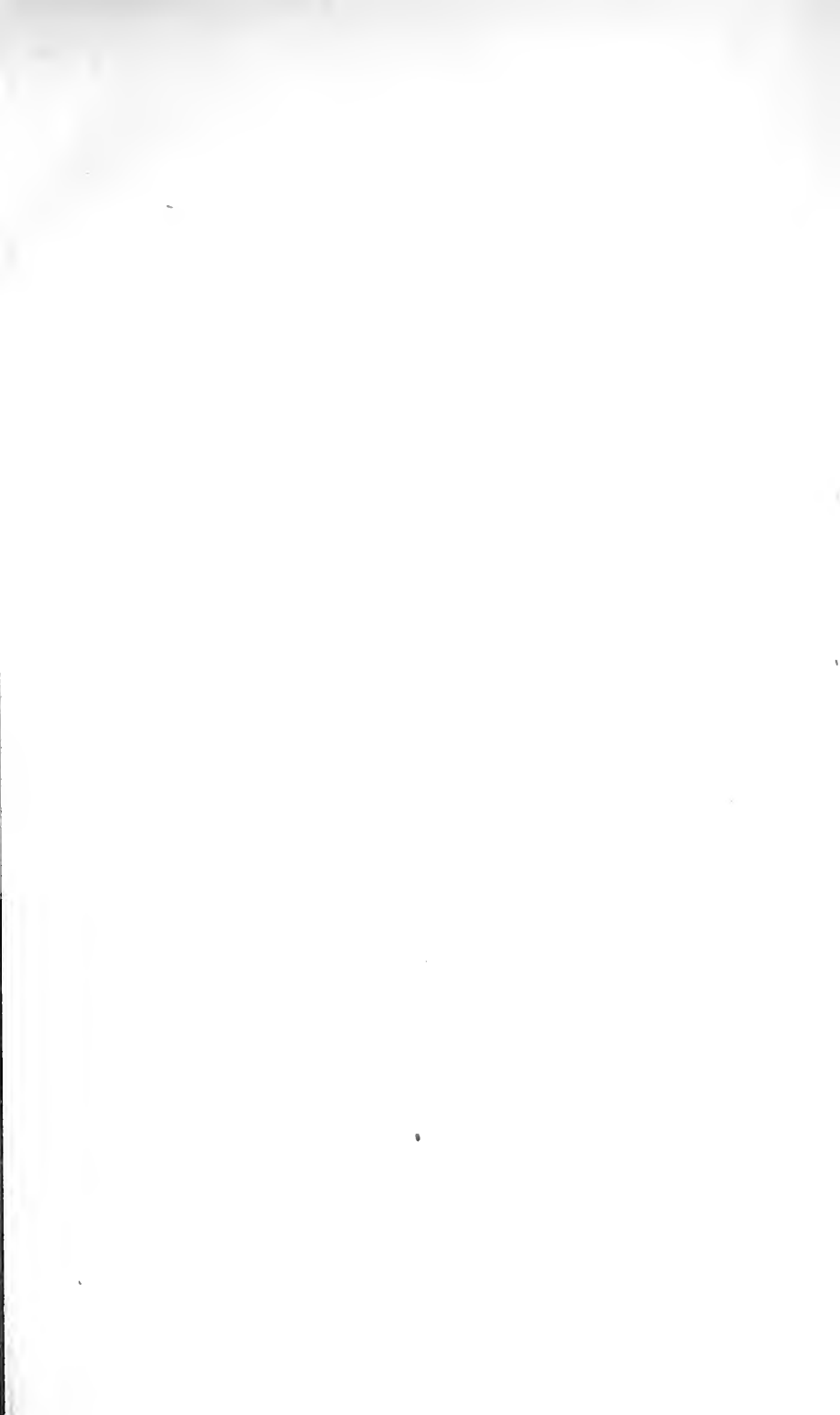
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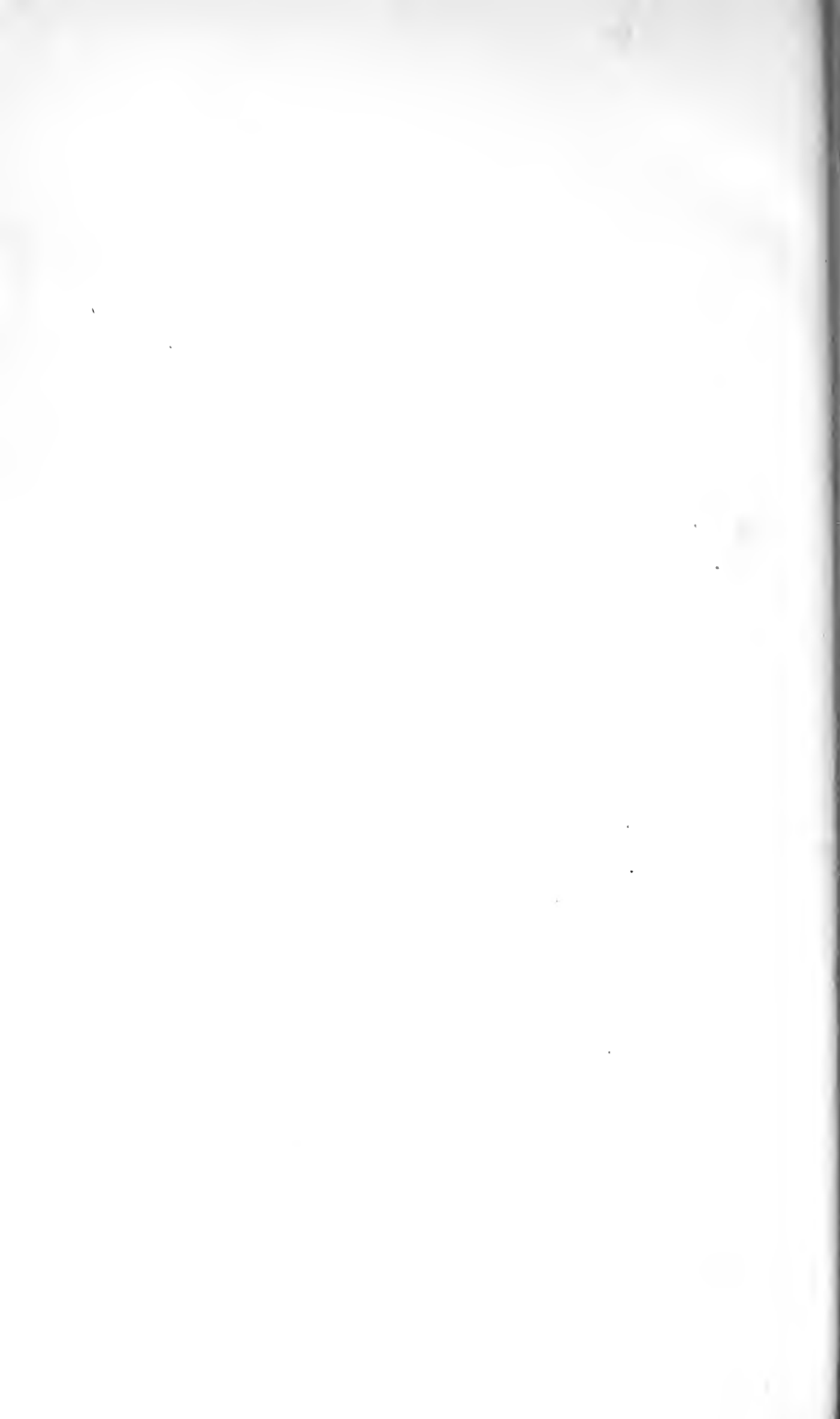
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